STATE OF CALIFORNIA

The Resources Agency

Department of Water Resources

BULLETIN No. 177-74

WATERMASTER SERVICE IN NORTHERN CALIFORNIA

1974 SEASON

JANUARY 1976

CLAIRE T. DEDRICK
Secretary for Resources
The Resources Agency

EDMUND G. BROWN JR.
Governor
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FOREWORD

Bulletin No. 177-74 discusses the watermaster service provided by the Department of Water Resources to areas in Northern California during the 1974 watermaster season. Authority to prepare this report is described in the California Water Code, Division 2, Part 4, Chapter 7.

The bulletin is presented in two parts. The first part contains general information about water rights, water supply, service areas, and watermaster duties. The second part contains sections describing the 18 active service areas, 16 in the Department's Northern District and 2 in the Central District. Each of these 18 sections includes descriptions of the general area, the basis of watermaster service, water supply, method of distribution, 1974 distribution, and other significant information for each area.

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STATE OF CALIFORNIA
Edmund G. Brown Jr., Governor

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* Big Sage Reservoir serves Hot Springs Valley I.D., upstream of Big Valley, but has considerable effect on the water supply to Big Valley.

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N.F. Cottonwood	N.F. Cottonwood Cr.	75	19	76	12	77
Cottonwood Creek	N.F. Pit River	79-81	22	82	13a	89
Couch Creek	N.F. Pit River				13e	93
Cow Creek	Cow Creek	31			6	34
N. Cow Creek	Cow Creek	31,32	12	32	6a-6c	34-36
N.F. Cow Creek	Cow Creek				6	33
Dale Creek	Shasta River	103			15a	111
Davis Creek	N.F. Pit River	79-81	23	82	13b	90
De Sabla Reservoir	Butte Creek	25				
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Digger Creek	Digger Creek	39	13	40	7	41
Dill Slough	Susan River	153,156			18,18e	160,166
Doby Creek	N.F. Cottonwood Cr.				12	77
Dorris Reservoir	S.F. Pit River				16a	126
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Emerson Creek	Surprise Valley	131,132,134	54	140	17j	152
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Eyster Slough	Surprise Valley				17i	151
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S.F. Fitzhugh Cr.	S.F. Pit River				16b	127
M.F. Fitzhugh Cr.	S.F. Pit River				16b	127
Fletcher Creek	M.F. Feather River	59,60			11k	73
Flood Channel	Susan River				18e	166
Franklin Creek	N.F. Pit River	79-81	25	83	13d	92
French Creek	French Creek	43,44	8	44	8	45
North Fork	French Creek	43			8	45
French Reservoir	S.F. Pit River	121			16b	127
Frenchman Res.	M.F. Feather River	59,60				
Gleason Creek	N.F. Pit River				13g	95
Gold Run Creek	Susan River	153-156	56	157	18,18b	160,162
Hahn Channel	Hat Creek				9a	50
Hamlin Creek	M.F. Feather River	60			11j	72
Hamlin Slough	Butte Creek	25			5	29
Hartson Slough	Susan River	153-156			18,18e	160,166
Hat Creek	Hat Creek	47,48	15	48	9-9c	49-52
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Indian Creek	Indian Creek	53,54	16	54	10,10c	57,58
Iverson Reservoir	Big Valley	16			3	19
Jackson Creek	Shasta River	103				
Jerusalem Creek	N.F. Cottonwood Cr.	75			12	77
Joseph Creek	N.F. Pit River	79,81	26	84	13e	93
Juniper Creek	Big Valley				3	19
Kanavel Creek	Susan River				18d	164
Lake Leavitt	Susan River	153-156	59	159	18,18c	160,163
Lake Shastina	Shasta River (See Dwinnell Reservoir)					
Lassen Creek	Susan River	153,155			18,18b	160,162
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Linville Creek	N.F. Pit River	79,81	24	86	13c	91
Lights Creek	Indian Creek	53,54			10,10b	55,57
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Little Last Chance	M.F. Feather River	59,60			11a,11b	63,64
East Channel	M.F. Feather River				11a,11i	63,71
North Channel	M.F. Feather River				11a,11i	63,71
Little Shasta River	Shasta River	103,105	36	109	15h	119
Little Truckee Div.	M.F. Feather River	59,60	17	61	11e	67
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Lower Shasta River	Shasta River (See Shasta River)					
Martin Creek	N.F. Pit River				13f	94
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Meeks Meadow Cr.	French Creek				8	45
Middle Channel	M.F. Feather River (See Smithneck Creek)					
M.F. Feather River	M.F. Feather River (See Feather River)					
M.F. Fitzhugh Cr.	S.F. Pit River (See Fitzhugh Creek)					
Mile Creek	N.F. Pit River				13f	94

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Mill Creek	Shackleford Creek	99			14	101
Mill Creek	S.F. Pit River	121,122			16	125
Mill Creek	Surprise Valley	131,134	45	136	17a	143
Miller Creek	M.F. Feather River	60			11j	72
Miners Creek	French Creek	43			8	45
Moon Creek	N.F. Cottonwood Cr.	75			12	77
Morris Slough	M.F. Feather River				11b	64
Murphy-Estep Br.	Cow Creek				6d	37
Negro Creek	N.F. Pit River				13h	96
New Pine Creek	N.F. Pit River	79,81	21	81	13a	89
North Bear Creek	N.F. Pit River				13f	94
North Canyon Cr.	Indian Creek				10a	56
North Channel	N.F. Pit River (See Franklin Creek)					
North Channel	M.F. Feather River (See Little Last Chance Creek)					
North Channel	Surprise Valley (See Pine Creek)					
North Cow Creek	Cow Creek (See Cow Creek)					
North Deep Creek	Surprise Valley (See Deep Creek)					
N.F. Cottonwood Cr.	N.F. Cottonwood Creek (See Cottonwood Creek)					
N.F. Davis Creek	N.F. Pit River (See Davis Creek)					
N.F. French Creek	French Creek (See French Creek)					
N.F. Pit River	N.F. Pit River (See Pit River)					
Oak Run Creek	Cow Creek	31,32			6,6d	33,37
Old Channel	Hat Creek				9a	50
Old Channel	Surprise Valley				17i	151
Old Channel	Susan River	153			18b	162
Onion Creek	M.F. Feather River	59			11e	67
Owl Creek	Surprise Valley	131-134	51	139	17g	149
Parker Creek	Susan River	153-155			18,18d	160,164
Parker Creek	N.F. Pit River	79,82	29,31	85,86	13h	96
Parks Creek	Shasta River	103,104	33	107	15,15e	111,116

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Perry Creek	M.F. Feather River				11e,11f	67,68
Peters Creek	Indian Creek				10b	57
Pine Creek	S.F. Pit River	121,122	42	124	16a	126
Pine Creek	Surprise Valley	131-134	47	137	17d	146
North Channel	Surprise Valley				17d	146
South Channel	Surprise Valley				17d	146
Pine Creek Res.	S.F. Pit River	121			16	125
Pine Creek, New	N.F. Pit River (See New Pine Creek)			137	13	88
Pit River	Big Valley	15,16	6,7	17	3	18
North Fork	N.F. Pit River	79,81	27	84	13i,13j	97,98
South Fork	S.F. Pit River	121,122	39	123	16,16c,16d	125,129,130
Piute Creek	Susan River	153,155			18,18a	160,161
Plum Canyon Res.	N.F. Pit River				13h	96
Plum Creek	N.F. Pit River				13h	96
Porter Reservoir	N.F. Pit River				13h	96
Rader Creek	Surprise Valley	131,132,134	52	139	17h	150
Rainbow Lake	N.F. Cottonwood Cr.	75			12	77
Rising River	Hat Creek	47			9	49
Roberts Reservoir	Big Valley	15,16			3	19
Round Valley Res.	Indian Creek				10	55
Rush Creek	Ash Creek	11,12			2	14
Rutherford Creek	Surprise Valley	132			17a	143
Shackleford Creek	Shackleford Creek	99			14	101
Shasta River	Shasta River	103-105	32,37,38	107,110	15,15a 15f,15i	111,112 117,120
Little Shasta R.	Shasta River	103-105	36	109	15,15h	111,119
Lower Shasta R.	Shasta River	103-105	38	110	15i	120
Upper Shasta R.	Shasta River	104			15a	112
Shields Creek	N.F. Pit River		30	86	13h	96
Silver Creek	Cow Creek				6e	38
Slaughter Pole C.	Cow Creek				6e	38

Watermaster Service Areas in Northern California

INTRODUCTION

Purpose and Benefits

The primary purpose of watermaster service is to distribute water in accordance with established water rights. This is accomplished by apportioning to the rightful users the available supplies in streams which have had water right determinations.

Distribution of water in watermaster service areas is a continuing statutory function of the Department of Water Resources as provided in Part 5 of Division 2 of the California Water Code.

A major benefit of watermaster service to water users and the State is that court litigation and physical violence, which in past years occurred quite frequently, are essentially eliminated.

Under watermaster service each water right owner is assured that his rights are being protected without his having to take legal action against other users. Another important benefit results from increased use of available supplies through reduction of waste.

Because both the water right owners and the State receive benefits from watermaster service, the costs of performing the service are shared. The State general tax fund pays half the cost of operating each service area. The water right owners in the service area pay the other half. Individual users' shares are determined in accordance with Article 3 of Chapter 7 of the above-mentioned Part 4 of Division 2 of the Water Code.

Determination of Water Rights

Almost all of the streams under state watermaster service have had their water rights defined by the courts under one of three adjudication procedures. These adjudications establish each owner's rights as to allowable rate of diversion, season of use, point of diversion, and place of use. They also establish priorities whereby each owner's rights are ranked in relation to the rights of all other decreed owners. Under this system all rights of any one priority must be fully satisfied before water can be diverted under any lower priority rights. The determinations of the courts are set forth by entering judgments, commonly called decrees.

Water rights determinations necessary for establishing watermaster service areas may be accomplished by "statutory adjudication", "court adjudication", "court reference", permit or license to appropriate, or agreement.

Statutory Adjudications

The California Water Code (Sections 2500-2900) prescribes a procedure whereby water users on any stream may petition the State Water Resources Control Board, Division of Water Rights, to make a legal determination of all water rights on that stream. If the Board finds that such a determination is in the best public interest, it proceeds with a statutory adjudication. This adjudication ultimately results in a court decree which defines all water rights on the stream.

Court Adjudications

A less extensive method of defining water rights is the "court adjudication" procedure. This type of adjudication results when two or more parties involved in a water rights dispute seek a solution to their problem under civil law. A decision handed down in such a civil action determines only the water rights of the parties involved in the action and

therefore does not necessarily define all water rights on the stream. As a result, serious conflicts sometimes arise between decreed water right owners and persons claiming riparian or appropriative rights which were not specified in the decree.

Court Reference

The "court reference" type of adjudication arises when a civil action as discussed above is referred to the State Water Resources Control Board for a determination under authority contained in Sections 2000-2076 of the Water Code. The Board's report becomes the basis of the court's decision. As in court adjudications, a court reference determines only the water rights of the parties involved in the action.

Watermaster Service Areas

Formation

Watermaster service is provided in areas where the rights have been defined by the Superior Court of the County, or by agreement, and where an unbiased qualified person is needed to properly apportion the available water according to the established rights. The Director of Water Resources creates watermaster service areas where these conditions exist, following either a request by the users or an order by the Superior Court.

The first watermaster service areas were created in September 1929. Prior to 1929, some watermaster service was provided in accordance with the Water Commission Act of 1913. There are now about 50 streams in Northern California which are under state watermaster service. The two newest service areas were created in 1972.

The counties and principal water sources of the various service areas in Northern California are listed in Table 4. Of these 20 areas, 18 are in the Department's Northern District, and two in the Central District. In 1974, two service areas in the Northern District, Seiad Creek in Siskiyou County and Pine Creek in Butte and Tehama Counties, were inactive.

Description of Region

The service areas are primarily in the mountainous northeastern part of the State where the growing season varies between about 100 and 140 days. Meadow hay and alfalfa are the principal crops under irrigation, although a considerable amount of land is used exclusively for pasturing livestock. Most irrigation is accomplished by gravity systems, with water users diverting directly from the streams at one or more diversion points. However, pumped diversions and sprinkler irrigation systems are becoming popular in some areas.

A map of this region showing the 20 service areas is presented in Figure 1.

Watermaster Responsibilities

Authority

To assure the proper distribution of water within his service area, each watermaster must ascertain the amount of water available and distribute it both by amount and priority in accordance with established water rights. To accomplish his responsibility, the watermaster is provided authority both by the Water Code and by provisions of pertinent court decrees or voluntary agreements to physically regulate the various streams in the service area. He is further authorized to supervise the design, construction, operation, and maintenance

of diversion dams, headgates, and measuring devices.

Each watermaster supervises water distribution at approximately 100 to 200 diversions in one or more service areas. The need for frequently checking and regulating these diversion points increases substantially in years of short water supply.

Control Devices

Permanent measurement and control devices, which the State requires (Water Code Sections 4100-4104) at each owner's main point of diversion, are constructed by the water users under supervision of the watermaster. Installation of accurate, easily set, and lockable structures is a continuing objective of watermaster service, since once they are built, conflicts among water users almost always stop. Also, the watermaster's ability to check and set each diversion regularly is greatly facilitated by good structures.

Interpretation of Decrees

The watermaster is often called upon to make immediate field or on-the-spot interpretations of various court decrees, agreements, etc. Since most of these documents were written more than 30 years ago, many situations have developed that were not initially considered. Therefore, the watermaster must use sound, careful, and practical judgment in attempting to reach workable solutions to water disputes. To accomplish this he must possess a good understanding of California water rights law.

Water Supply

Water supply in the watermaster service areas is derived principally from unregulated runoff of small streams. Peak runoff, snowmelt in most cases, occurs in the spring, with relatively small streamflow occurring in the summer and early fall. Additional supplies from storage reservoirs and ground water pumping are used in some areas to supplement natural streamflow. However, state watermasters do not supervise the use of ground water in this part of the State.

In some service areas the water supply must be predicted in advance to determine the date watermastering will begin and, to some extent, the manpower needed. The Department's Bulletin 120 series, "Water Conditions in California", is used to assist in these predictions.

Precipitation

The streamflow available for distribution is affected by total precipitation, amount of snowpack, air temperature, and the amount of rainfall received during the irrigation season. The latter is particularly important in the Upper Pit River-Surprise Valley areas, where about 25 to 30 percent of the annual precipitation occurs normally in April, May, and June. Spring storms, which are normally accompanied by relatively cool temperatures, materially affect both the water supply and the demand. Temperatures in the spring affect the demand for water and the manner in which snowmelt runoff occurs. A hot, dry spring depletes the water supply very early, even in years of normal snowpack. A cold, wet spring can extend the supply well into the irrigation season, but cold temperatures retard the growth of crops and are not necessarily desirable.

Data collected at representative snow courses showing the snowpack as of April 1, 1974, on all courses and the snowpack on May 1 and June 1 at selected courses, is presented in Table 1. This information was obtained from the Department's Bulletin 120-74.

Table 2 reports the quantity of precipitation at selected stations in the service areas during the 1973-74 water year.

The seasonal precipitation gives an indication of the related water supply available for distribution and provides a basis for comparing the current year's supply with a long-term average.

Streamflow

The general water supply available for diversion within each watermaster area is determined from stream gaging stations placed at key locations in the main stream channels. Several major stations are installed and maintained by the United States Geological Survey as part of a federal-state program for collection of year-round streamflow records. In addition, several stream gaging stations are installed and operated by the watermasters during the irrigation season to provide supplemental information. Also, water stage recorders are often installed by the watermaster in selected diversion ditches to further assist him in proper distribution of the various water right allotments.

Table 3 presents runoff data at selected stream gaging stations in or near the service areas.

TABLE 1

SNOWPACK AS OF APRIL 1 AND MAY 1, 1974 AT REPRESENTATIVE SNOW COURSES

Watermaster Service Areas (Grouped Geographically)*	Snow Courses* Relating to Each Group	Elevation (in feet)	WATER CONTENT OF SNOW				
			April 1 Average (in inches)	April 1, 1974		May 1, 1974**	
				In Inches	In Percent of April 1 Average	In Inches	In Percent of April 1 Average
French Creek	Parks Creek	6,700	35.0	51.3	147		
Shackleford Creek	Middle Boulder No. 1	6,600	30.0	42.2	141	51.7	172
Shasta River	Little Shasta	6,200	20.0	18.4	92		
Ash Creek	Blue Lake Ranch	6,800	10.0	11.2	112		
Big Valley	Eagle Peak	7,200	15.0	20.0	133		
North Fork Pit River	Cedar Pass	7,100	16.0	21.4	134	21.7	136
South Fork Pit River	Adin Mountain	6,350	13.0	16.6	128	16.4	126
Surprise Valley							
Burney Creek	Thousand Lakes	6,500	36.0	47.8	133	55.2	153
Cow Creek	New Manzanita Lake	5,900	7.0	11.2	160	1.7	24
Digger Creek	Burney Springs	4,700	2.0	2.2	110		
Hat Creek							
Butte Creek	Humbug Summit	4,850	11.0	15.0	136		
Susan River	Silver Lake Meadows	6,450	28.0	45.7	163	48.7	174
	Fredonyer Pass No. 1	5,750	8.0	7.2	90		
Indian Creek	Independence Lake	8,450	41.0	55.4	135	59.3	145
Middle Fork Feather River	Mount Dyer No. 1	7,100	24.0	40.8	170	38.4	160
	Rowland Creek	6,700	17.0	19.2	113	14.2	83
	Yuba Pass	6,700	30.0	35.7	119	38.1	127

* Snow Courses are listed in order of elevation within each geographical group of watermaster service areas.

** Data collected only at stations listed.

TABLE 2

PRECIPITATION AT SELECTED STATIONS - 1973-74

Station Name	County	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total	Percent Of Mean
Fort Jones Ranger Station	Siskiyou	3.86	7.17	5.15	7.13	2.62	3.33	3.92	0.05	0.14	0.79	0.04	0.00	34.20	157
		1.59	2.77	4.02	4.06	3.14	2.21	0.98	1.11	0.81	0.35	0.34	0.40	21.78	
Happy Camp Ranger Station	Siskiyou	7.34	22.17	15.64	15.71	9.88	11.49	4.19	0.05	0.13	0.20	0.15	0.00	86.95	158
		4.07	7.25	10.41	11.31	8.24	8.45	2.72	2.16	1.06	0.38	0.17	0.74	54.96	
Yreka	Siskiyou	3.08	4.76	3.43	7.40	2.08	4.27	2.19	0.15	0.20	0.35	0.06	0.00	27.99	158
		1.45	2.00	3.30	3.19	2.29	1.61	0.92	1.03	0.86	0.27	0.39	0.45	17.76	
Redding Fire Station No. 2	Shasta	2.95	14.28	7.03	12.28	4.38	10.02	5.29	0.08	0.65	3.53	0.10	0.00	60.59	156
		2.27	3.76	7.26	7.69	6.19	4.90	2.95	1.74	1.31	0.11	0.13	0.61	38.92	
Hat Creek Power House No. 1	Shasta	1.35	3.84	4.80	7.06	1.24	6.24	0.96	0.24	0.18	0.97	0.56	0.00	27.44	152
		1.30	1.83	2.93	2.85	2.84	2.02	1.35	1.26	0.77	0.28	0.16	0.47	18.06	
Lookout 3WSW	Lassen	1.60	7.88	4.30	4.90	0.97	6.07	1.21	0.68	T	1.16	0.33	0.00	29.10	111
		1.97	3.54	5.31	6.25	1.21	1.90	1.73	1.19	1.95	0.11	0.46	0.47	26.09	
Lakeview, Oregon	Lake	1.46	3.59	2.15	1.90	1.23	2.79	1.81	0.99	0.16	0.91	0.11	0.00	17.10	118
		1.21	1.37	1.88	1.84	1.71	1.52	1.15	1.51	1.28	0.22	0.17	0.58	14.44	
Alturas Ranger Station	Modoc	0.62	1.91	1.23	1.72	0.86	1.71	0.50	0.03	T	0.73	T	0.00	9.31	73
		1.07	1.35	1.63	1.82	1.45	1.37	1.03	1.31	1.03	0.31	0.22	0.43	12.82	
Jess Valley	Modoc	1.16	3.40	2.44	2.11	1.42	3.14	1.82	0.70	0.12	0.81	1.32	0.00	18.44	107
		1.31	1.66	1.92	1.89	1.95	1.88	1.64	2.02	1.62	0.41	0.26	0.66	17.22	
Cedarville	Modoc	1.04	2.29	1.52	2.39	0.72	1.95	1.04	0.04	0.04	1.30	0.39	0.00	12.72	99
		1.17	1.41	1.69	1.84	1.50	1.45	0.99	1.04	0.94	0.33	0.15	0.37	12.88	
Susanville Airport	Lassen	1.33	4.72	2.86	2.27	1.00	3.93	0.54	0.07	0.01	0.57	0.15	0.00	17.45	121
		0.92	1.51	2.56	2.53	2.51	1.51	0.82	0.83	0.67	0.18	0.09	0.35	14.48	
Greenville Ranger Station	Plumas	3.60	17.63	9.42	8.77	4.59	15.45	3.20	0.07	0.12	1.75	0.43	0.00	65.03	152
		2.61	4.81	5.83	8.89	7.44	6.47	2.84	1.71	0.75	0.35	0.21	0.95	42.96	
Sierraville Ranger Station	Sierra	1.83	8.70	6.15	5.07	0.09	7.72	1.23	0.35	0.07	2.23	0.70	0.00	34.14	135
		1.83	2.76	4.49	4.94	4.23	2.84	1.63	1.25	0.54	0.29	0.15	0.44	25.39	
Vinton	Plumas	1.26	2.66	2.41	1.09	0.77	2.54	0.77	0.01	0.05	1.28	0.49	0.00	13.33	104
		0.89	1.44	2.12	1.94	1.87	1.43	0.84	1.01	0.50	0.36	0.18	0.25	12.83	

Note: Figures above line are for current season; below line are long-term averages.

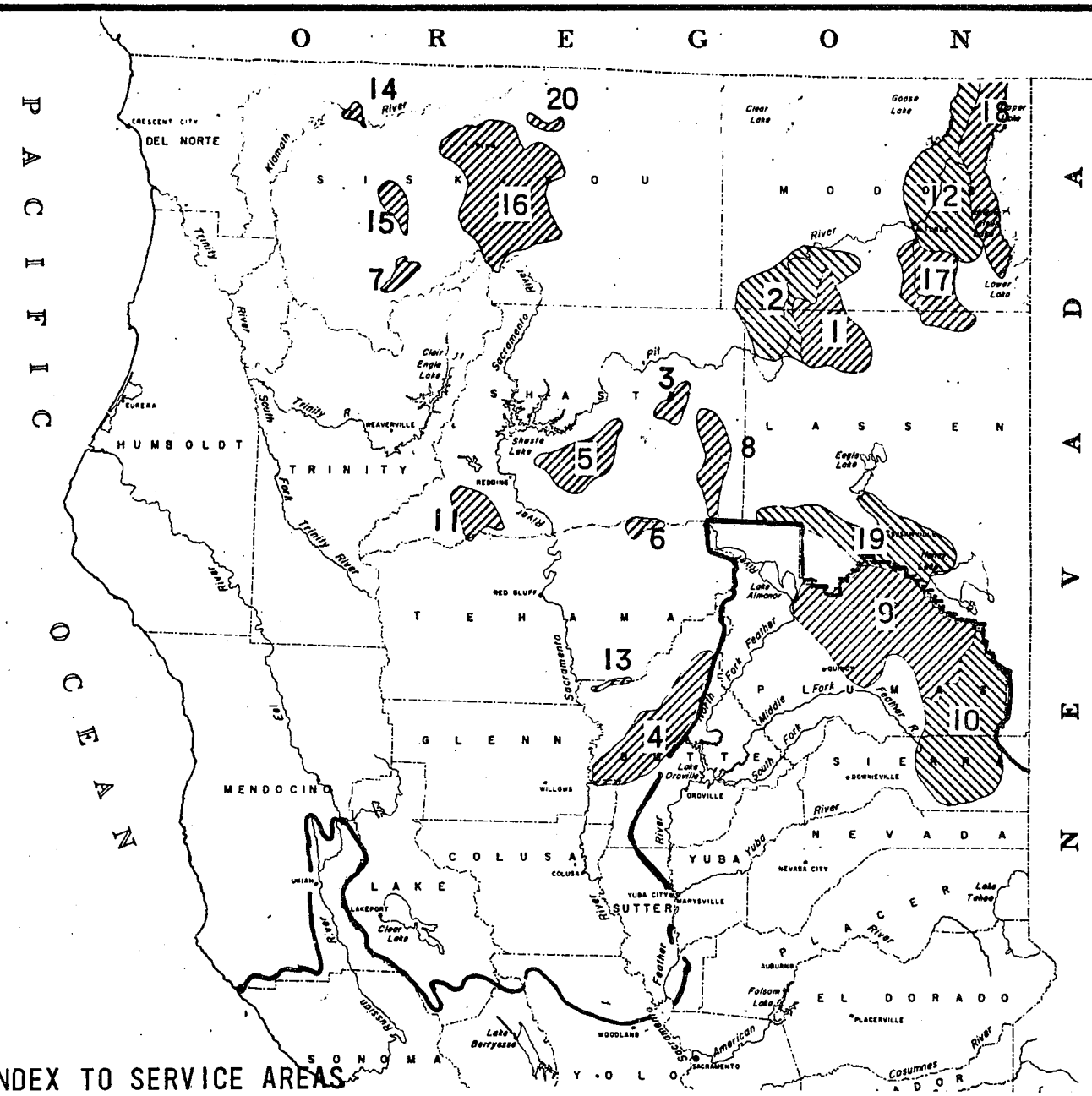
TABLE 3

RUNOFF AT SELECTED STATIONS - 1973-74 SEASON (IN ACRE-FEET)

Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total	Average 1/	Percent Average
Shasta River near Yreka	10,040	18,680	21,960	72,480	22,280	40,030	44,800	13,150	7,620	4,700	3,580	4,270	132,890	132,600	100
Hat Creek near Hat Creek	9,060	13,580	9,410	11,850	8,790	10,100	10,690	14,320	17,300	14,790	11,670	10,400	71,570	99,980	72
Pit River near Canby	3,680	9,270	16,780	42,490	10,900	68,490	38,640	29,930	8,730	5,060	2,830	5,010	121,920	180,400	68
South Fork Pit River near Likely	1,810	2,500	2,490	5,650	1,860	2,730	3,580	23,090	11,110	6,890	8,040	7,210	38,800	56,730	68
Susan River at Susanville	792	6,240	6,510	14,760	4,060	24,970	27,260	27,270	10,150	4,820	4,300	1,670	66,960	70,860	94
Indian Creek near Crescent Mills	4,340	48,530	61,860	137,500	32,710	169,000	136,600	91,350	29,360	6,510	2,650	1,870	364,100	399,200	91
Middle Fork Feather River near Clio	3,630	21,710	29,000	62,900	14,720	73,260	60,310	27,570	13,020	6,510	4,360	3,490	161,600	211,500	76
Butte Creek near Chico	8,670	75,530	65,390	112,900	30,080	117,600	69,550	34,810	21,920	15,450	11,480	9,580	292,880	292,700	100

1/ Long-term average

Figure 1



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1 Ash Creek
2 Big Valley
3 Burney Creek
4 Butte Creek
5 Cow Creek
6 Digger Creek
7 French Creek
8 Hat Creek
9 Indian Creek
10 Middle Fork Feather River
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12 North Fork Pit River
13 Pine Creek (inactive)
14 Seiad Creek (inactive)
15 Shackleford Creek
16 Shasta River
17 South Fork Pit River
18 Surprise Valley
19 Susan River
20 Willow Creek

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

WATERMASTER SERVICE AREAS IN NORTHERN CALIFORNIA

TABLE 4

WATERMASTER SERVICE AREAS AND STREAM SYSTEMS

Service Area	County	Principal Water Sources: MAJOR STREAM and Tributaries [a]	Principal Water Sources: Reservoirs and Nontributary Streams
Ash Creek	Lassen, Modoc	ASH CREEK	
Big Valley	Lassen, Modoc	PIT RIVER	Roberts Reservoir
Burney Creek	Shasta	BURNEY CREEK	
Butte Creek	Butte	BUTTE CREEK	W. Branch Feather River
Cow Creek	Shasta	COW CREEK [b] N. Cow, Clover, Oak Run Creeks	
Digger Creek	Shasta, Tehama	DIGGER CREEK	
French Creek	Siskiyou	FRENCH CREEK Miners Creek	Duck Lake, Paynes Lake
Hat Creek	Shasta	HAT CREEK	
Indian Creek	Plumas	INDIAN CREEK Lights Creek, Wolf Creek	
Middle Fork Feather River	Plumas, Sierra	M. FORK FEATHER RIVER Little Last Chance, Smithneck, Webber and Fletcher Creeks; Spring Channels, Westside Canal	Little Truckee River
N. Fork Cottonwood Creek	Shasta	N. FORK COTTONWOOD CREEK	Rainbow Lake
North Fork Pit River	Modoc	N. FORK PIT RIVER Parker Creek	Pine, Cottonwood, Davis Creeks
Pine Creek [c]	Butte, Tehama	PINE CREEK	
Seiad Creek [c]	Siskiyou	SEIAD CREEK	
Shackleford Creek	Siskiyou	SHACKLEFORD CREEK Mill Creek	Campbell and Cliff Lakes
Shasta River	Siskiyou	SHASTA RIVER Little Shasta River	Dwinnell Reservoir (Lake Shastina)
South Fork Pit River	Modoc	S. FORK PIT RIVER Pine and Fitzhugh Creeks	West Valley Reservoir
Surprise Valley	Modoc	NONE (All creeks listed at right, are unconnected)	Bidwell, Mill, Soldier, Pine, Cedar, Deep, Owl, Rader, Eagle and Emerson Creeks
Susan River	Lassen	SUSAN RIVER Willow Creek	Lake Leavitt, Hog Flat, McCoy Flat Reservoirs; Baxter and Parker Creeks
Willow Creek	Siskiyou	WILLOW CREEK	

[a] Major tributaries only A complete listing is given in " Index to Water Sources", page vii.

[b] Cow Creek proper not in service area

[c] Inactive in 1973 and 1974

SERVICE AREA DESCRIPTIONS AND 1974 NARRATIVES

This portion of the report consists of 18 sections, one for each service area active in 1974, presented in alphabetical order.

Each of these sections begins with a description of the particular service area, including location, geography, and general characteristics. Following this is a section entitled "Basis of Service". Under this heading are presented such data as the case number, date, and type of decrees; a brief summary of the decree or agreement which defines the water rights; the date the service area was created; and other related information.

These sections of the bulletin also present data on the water supply, methods of distribution, significant events of the watermaster season, and daily streamflow records. A map or schematic sketch of the stream system, including diversion locations, roads, etc., is also included for each service area.

A noticeable trend in recent years is the increasing number of water right owners in many areas, due to subdividing or "splitting" of property. For example, in the Ash Creek service area the number increased from 32 in 1967 to 59 in 1972, practically doubling in 5 years. This trend not only causes more work for the individual watermasters, but makes it difficult to maintain up-to-date records of all ownerships and their respective water rights. The water right ownerships are updated as of March 1 each year from County Assessors' records. Changes not on record by March 1 are therefore not reflected on the service area maps included in the various sections.

Since the purpose of this bulletin is to report the activities of the watermaster service, and because of the difficulty in keeping the data current, nothing herein should be construed as a determination of water rights. Furthermore, in some service areas there are diversions which may have been active but are not shown on the maps because they did not require the watermaster's attention during 1974.

As in previous years, watermaster service was begun on different dates in the various areas depending upon the streamflow conditions, the ranchers' needs for the water, or, as on some streams, the terms of the decree. Service was continued in all areas through the growing season and was concluded by October 12, 1974.

The date service was started in each service area and the name of the watermaster in charge are listed on the following page.

Service Area	Date Service Began in 1974	Watermaster
Ash Creek 6 mo.	April 1	L. L. Bates
Big Valley 5 mo	May 1	Virgil D. Buechler
Burney Creek 4 mo	June 1	Seth K. Barrett
Butte Creek 5 1/2	April 18	Kenneth E. Morgan
Cow Creek 2 mo.	June 1	Seth K. Barrett
Digger Creek 4 mo.	June 1	Seth K. Barrett
French Creek 3 mo.	July 1	John A. Nolan
Hat Creek 5 mo.	May 1	Virgil D. Buechler
Indian Creek* —	April 8	Harvey M. Jorgensen
M.F. Feather River* —	April 1	Conrad Lahr, H. Joe Nessler
N.F. Cottonwood Creek 4 mo.	June 1	Seth K. Barrett
N.F. Pit River 6 mo.	April 7	Eldon E. Rinehart
Shackleford Creek 4 mo.	June 1	John A. Nolan
Shasta River 6 mo.	April 1	John A. Nolan
S.F. Pit River - 6 mo.	April 1	L. L. Bates
Surprise Valley 6 1/2 mo.	March 19	Charles H. Holmes
Susan River 6 mo.	April 1	Lester L. Lighthall
Willow Creek 3 mo.	July 1	John A. Nolan

*Within Central District; all others in Northern District

Ash Creek Watermaster Service Area

The Ash Creek service area is situated in Modoc and Lassen Counties near the town of Adin, about 100 miles northeast of Redding via Highway 299. Figure 2, page 14, shows the Ash Creek stream system and diversions, plus the roads in the area.

The major sources of water for the service area are Ash Creek and three tributaries, Willow, Rush, and Butte Creeks. Ash Creek rises in Ash Valley in the southeastern part of the service area and flows northwesterly about 18 miles to its confluence with Rush Creek, then southwesterly to the town of Adin, and then westerly to Ash Creek Swamp and the Pit River. Butte and Willow Creek head in the mountains to the east and flow northwesterly into Big Valley. Butte Creek meets Ash Creek near the head of the valley at Adin and Willow Creek about 3 miles farther west near the head of Ash Creek Swamp. The valley floor in this vicinity is at an elevation of approximately 4,200 feet.

Basis of Service

The rights on this creek system were determined by a court reference and set forth in Decree No. 3670, Modoc County Superior Court, dated October 27, 1947. From 1949 through 1958 Ash Creek was included as a part of Big Valley watermaster service area. The Ash Creek watermaster service area was created April 3, 1958.

There are 59 water users in the service area with water rights totaling 123.65 cubic feet per second. Approximately 85 percent of the water rights in the service area are in Big Valley, west of the town of Adin. The remaining water rights are along the upstream tributaries and in Ash Valley, east of the town of Adin. The portion of Big Valley served is approximately 10 miles long by 6 miles wide, extending from the town of Adin to the confluence of Ash Creek and the Pit River.

The Ash Creek decree establishes the number of priority classes on the individual streams within the service area as follows: Ash Creek - five; Willow Creek - four; Rush Creek - one; and Butte Creek - two. Each of these streams is independently regulated.

Water Supply

The water supply for Ash and Rush Creeks is derived primarily from snowmelt, since most of the watershed is between 5,000 and 6,000 feet in elevation. Willow Creek and Butte Creek receive a substantial portion of their water from springs. These creeks normally have sufficient water to satisfy demands until about June 1, after which the supply decreases rapidly. By the latter part of June, Ash Creek normally has receded to about 20 cubic feet per second, Willow Creek to about 5 cubic feet per second, and Butte Creek to less than 1 cubic foot per second. The flow of these creeks then remains nearly constant for the remainder of the season.

Method of Distribution

Irrigation diversions from Ash Creek and its tributaries are accomplished by small dams placed in the stream channels. Most of the users have several diversion ditches at these dams. These ditches convey the water to the fields where it is spread by means of small laterals. Wild flooding is the predominant method of irrigation, but checks and borders are used to spread the water on some ranches. In a few areas, pumps are used to divert the water into ditches or through sprinkler systems. Return flow is rediverted for use on downstream ranches. In some cases tailwater may be recaptured and recirculated before it returns to the creek.

1974 Distribution

Watermaster service began April 1 and continued until October 12. L. L. Bates, Water Resources Engineering Associate, was the watermaster for this period.

Ash Creek. The available water supply in Ash Creek was sufficient to meet all demands (five priorities) until the first part of May. For most of the remainder of the irrigation season, water was available for first priority allotments only.

The daily mean discharge of Ash Creek at Adin is presented in Table 5, page 12. This stream gaging station is downstream from a substantial number of the diversions; consequently, flows reported do not include all of the available supply of this creek.

Rush Creek. The available water supply in Rush Creek was sufficient to satisfy all allotments (one priority) until the end of June. By late September the flow had gradually decreased to about 30 percent of these allotments.

Willow Creek. The available water supply in Willow Creek was sufficient to satisfy all allotments (four priorities) until the first of June. The flow then dropped rapidly, causing regulation of second priority allotments to begin during the first week in June. Throughout the remainder of June and continuing until late August, the flow receded gradually. At this time, and for the remainder of the season, about 50 percent of the second priority allotments were served.

Butte Creek. The available water supply in Butte Creek was sufficient to satisfy all allotments (two priorities) until late spring. During the remainder of the season the flow gradually decreased; however, no distribution problems were encountered.

ASH CREEK WATERMASTER SERVICE AREA

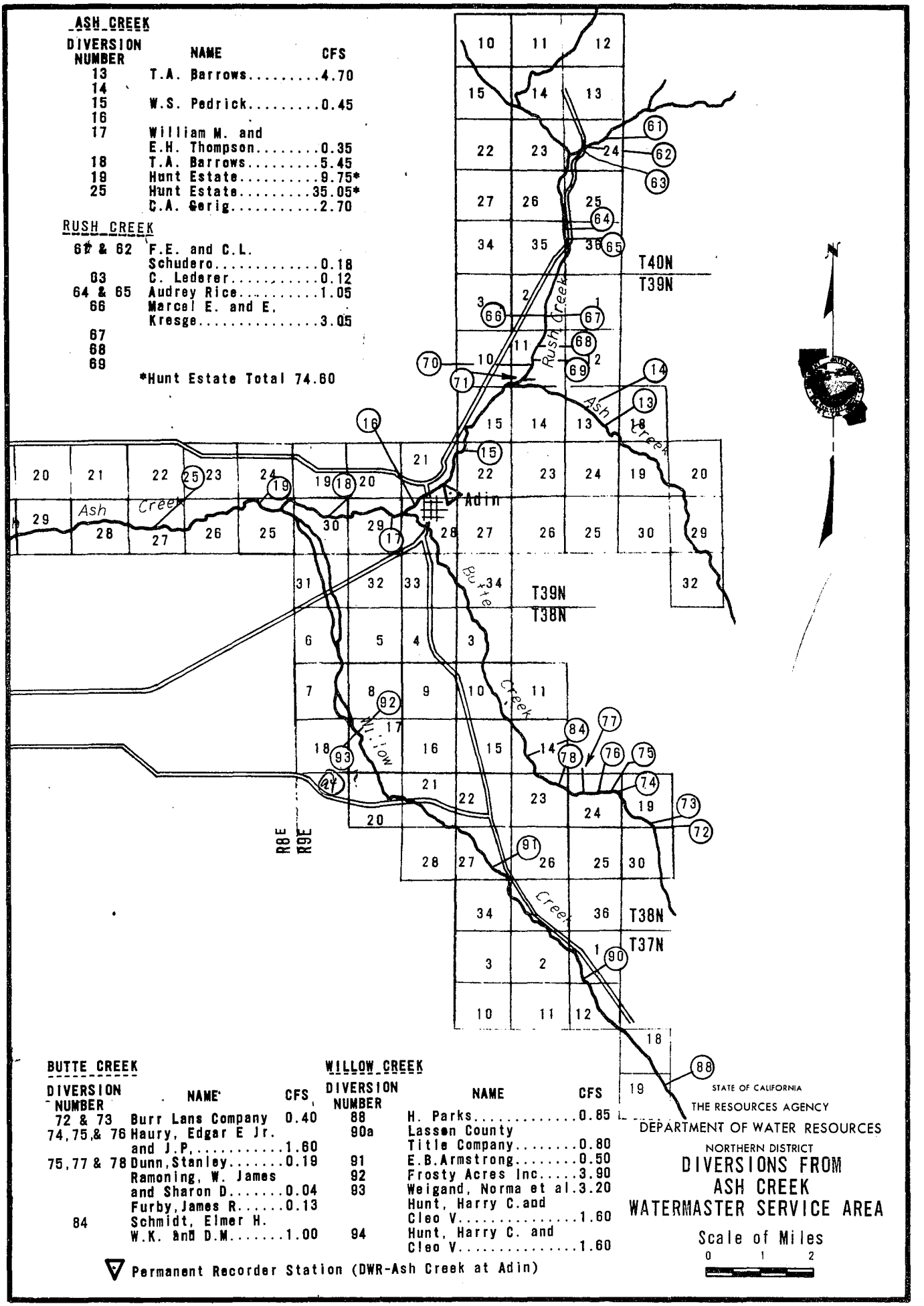
1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 5

ASH CREEK AT ADIN

Day	March	April	May	June	July	August	September	Day
1	289	1110	153	36	19	27	14	1
2	253	784	165	35	19	28	16	2
3	201	727	168	28	21	29	17	3
4	179	524	165	25	21	27	17	4
5	188	445	164	28	22	32	18	5
6	422	414	164	34	20	29	17	6
7	382	344	163	32	17	27	17	7
8	232	317	167	32	26	26	17	8
9	212	307	168	28	32	25	19	9
10	366	288	159	24	40	24	19	10
11	573	264	143	25	36	22	19	11
12	573	237	134	22	33	23	20	12
13	430	214	128	21	30	23	21	13
14	380	202	120	19	27	22	22	14
15	473	198	109	20	25	22	23	15
16	511	193	100	22	24	27	23	16
17	665	194	101	22	23	30	22	17
18	543	226	99	22	22	27	21	18
19	458	227	90	22	21	25	20	19
20	389	200	76	25	21	26	19	20
21	338	187	64	26	19	25	18	21
22	309	186	60	21	19	24	20	22
23	283	193	52	21	16	24	20	23
24	268	187	43	21	29	26	20	24
25	265	176	44	21	22	26	20	25
26	274	166	44	23	31	26	20	26
27	279	159	38	23	30	25	21	27
28	310	150	33	22	28	17	21	28
29	897	143	34	20	24	9.3	22	29
30	760	144	37	19	23	10	23	30
31	575		34		25	12		31
Mean	396	304	104	24.6	24.7	24.0	19.5	Mean
Runoff In Acre-Feet	24350	18060	6385	1466	1517	1478	1162	Runoff In Acre-Feet

Figure 2


ASH CREEK
DIVERSION NUMBER NAME CFS
13 T.A. Barrows.....4.70
14
15 W.S. Pedrick.....0.45
16
17 William M. and E.H. Thompson.....0.35
18 T.A. Barrows.....5.45
19 Hunt Estate.....9.75*
25 Hunt Estate.....35.05*
C.A. Gerig.....2.70
RUSH CREEK
62 & 62 F.E. and C.L. Schudero.....0.18
63 C. Lederer.....0.12
64 & 65 Audrey Rice.....1.05
66 Marcel E. and E. Kresge.....3.05
67
68
69
*Hunt Estate Total 74.60
Rush Creek
Ash Creek
Adin
Butte Creek
Willow Creek
T40N
T39N
T38N
T37N
R8E
R9E
BUTTE CREEK
DIVERSION NUMBER NAME CFS
72 & 73 Burr Lans Company 0.40
74,75,& 76 Haury, Edgar E Jr. and J.P.....1.60
75,77 & 78 Dunn, Stanley.....0.19
Ramoning, W. James and Sharon D.....0.04
Furby, James R.....0.13
84 Schmidt, Elmer H. W.K. and D.M.....1.00
WILLOW CREEK
DIVERSION NUMBER NAME CFS
88 H. Parks.....0.85
90a Lassen County Title Company.....0.80
91 E.B.Armstrong.....0.50
92 Frosty Acres Inc.....3.90
93 Weigand, Norma et al.3.20
Hunt, Harry C.and Cleo V.....1.60
94 Hunt, Harry C. and Cleo V.....1.60
Permanent Recorder Station (DWR-Ash Creek at Adin)
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM ASH CREEK WATERMASTER SERVICE AREA
Scale of Miles
0 1 2

Big Valley Watermaster Service Area

The Big Valley service area is in Modoc and Lassen Counties in the vicinity of the towns of Lookout and Bieber, about 90 miles northeast of Redding via State Route 299.

The Pit River is the major source of water regulated by the watermaster. The river enters the valley north of the town of Lookout and flows southerly through the western part of the valley and out at the southern end. The major area of use is about 13 miles of valley floor, up to 6 miles wide, along the Pit River at an approximate elevation of 4,200 feet.

A map of the Big Valley stream system with towns, roads and diversions is presented as Figure 3, pages 18 and 19.

Basis of Service

The Big Valley watermaster service area was created in November 13, 1934, and service began with the 1935 season, operating under an agreement to determine water rights recorded in 1934. The water rights in this service area were set forth in Decree No. 6395, Modoc County Superior Court, a statutory decree, dated February 17, 1959.

Distributing the water on a continuous-flow basis, as provided by the decree, has proven impracticable because of the wide variation of flow which frequently occurs. By mutual agreement, an alternative procedure has been established allowing each user a definite amount of water in acre-feet (AF) for each cubic foot per second (cfs) of right allotted by the decree. The watermaster estimates the amount of water available for the next 15 to 30 days and then chooses the appropriate acre-foot/cfs ratio so that the rotation through the valley is completed in not more than 30 days.

There are 58 water users in the service area with total rights of 241.82 cfs, of which 154.23 cfs are second priority, 29.59 cfs third priority, and 43 cfs fourth priority, with 15 cfs set aside for first priority (stock water and channel storage). Under the decree, the water rights were determined on a basis of 1 cfs per 70 acres of irrigable land.

Water Supply

The flow in the Pit River at the head of Big Valley is derived principally from direct runoff, mainly snowmelt, and return flow from irrigation water released from West Valley and Big Sage Reservoirs above South Fork Pit River and Hot Springs Valleys, respectively.

The available water supply in the Pit River as it flows through Big Valley is ordinarily adequate to satisfy all demands until about June 1. The irrigation practices in Hot Springs Valley, about 20 miles upstream from Big Valley, have a significant effect on the available water supply in Big Valley throughout the remainder of the irrigation season. Water users in Hot Springs Valley divert most of the flow of the Pit River for 2- or 3-week periods. Natural flow available for use in Big Valley during these periods is often less than 20 cfs. Periodic releases from channel storage in the lower end of Hot Springs Valley sometimes increase the flow to as much as 200 to 300 cfs for relatively short periods. Consequently, equitable water distribution in Big Valley is very difficult to attain.

Roberts Reservoir, which stores runoff of a minor tributary of the Pit River near the upper end of Big Valley above Lookout, serves as a supplemental source of water to those users in the area who are members of the Big Valley Mutual Water Company. Water from this reservoir is released into the Pit River and distributed to members of the water

company along with the natural flow to which they are entitled.

Iverson Reservoir stores runoff of East Juniper Creek, a tributary to the Pit River at the lower end of Big Valley. This reservoir was completed in 1968 to provide a supplemental water supply for the McArthur and Britten Ranches. Water from Iverson Reservoir is released into the Pit River and then rediverted to the users along with their decreed rights from natural flow of the Pit River.

Records of two stream gaging stations in the Big Valley service area are presented in Tables 6 and 7, page 17.

Method of Distribution

Most water users in the Big Valley service area irrigate on a rotation schedule either by wild flooding or by checks and borders. Large flashboard dams placed in the channel make it possible to use the large heads of water characteristic of the supply in the area. In addition, some pumps are used for diversion, both in ditches and directly into sprinkler systems. The ranches which irrigate by wild flooding must use large heads of water in order to cover unleveled or high ground. Much of the runoff is recaptured for use by downstream lands, resulting in a relatively high irrigation efficiency for the valley.

1974 Distribution

Watermaster service began in the Big Valley service area on May 1 and continued through September 30, 1974, with Virgil D. Buechler, Water Resources Technician II, as watermaster.

The season began with Big Sage Reservoir at capacity. West Valley Reservoir started spilling April 23 and continued through June 14. Roberts Reservoir filled during the spring, and Iverson Reservoir almost filled.

The river dams were installed during May at which time a full irrigation was started. This rotation was completed by June 4.

The flow in the Pit River at Canby was above 500 cubic feet per second from May 1 through May 22 and then gradually decreased to 70 cubic feet per second on June 27, at which time the meadows were dried up for haying. During the period June 27 to July 28 the lower users rotated among themselves and irrigated their pasture land. With haying operations completed on July 28, the first irrigation after haying was started. A rotation using a 5 AF/cfs ratio was started. During this irrigation the Roberts Reservoir shareholders used a supplemental quantity of 786 acre-feet. The Iverson Reservoir shareholders used 30 percent of their storage, or approximately 550 acre-feet. The second rotation, using a 10 AF/cfs ratio, was completed August 27. On this rotation and the next full irrigation, the Roberts Reservoir shareholders used another 562 acre-feet. The Iverson Reservoir users used another 50 percent of their storage, or approximately 700 acre-feet, to receive two full irrigations.

Water delivered from Roberts and Iverson Reservoirs was delivered to the following people:

Roberts Reservoir Shareholders	Acre-Feet
Cyril Mamath	124
Hunt Estate	156
Sam Gerig	294
Eagle Banner	100
Norris Gerig	103
Charlie Kramer	171
D. Babcock & D. Hawkins	400
Total	1,348

Iverson Reservoir Shareholders	
Bill Mitchell	417
John McArthur	417
John Britten	417
Total	1,251

BIG VALLEY WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 6

PIT RIVER NEAR CANBY

Day	March	April	May	June	July	August	September	Day
1	667	1580	412	98	33	84	83	1
2	803	1430	464	170	17	54	90	2
3	785	1430	494	247	119	64	91	3
4	665	1220	495	209	112	61	91	4
5	557	967	495	165	67	55	103	5
6	857	793	520	206	40	45	112	6
7	1280	673	530	323	34	47	101	7
8	1300	599	515	255	117	42	97	8
9	939	553	505	227	175	39	100	9
10	805	515	555	246	156	42	86	10
11	957	487	620	255	132	50	89	11
12	1310	478	680	207	150	54	89	12
13	1850	459	732	170	152	51	77	13
14	1770	428	728	130	159	45	75	14
15	1800	434	723	111	160	39	74	15
16	1930	447	691	133	139	34	75	16
17	1890	438	646	117	128	33	90	17
18	1760	474	565	113	103	33	93	18
19	1520	543	546	116	85	32	85	19
20	1200	590	564	78	82	33	77	20
21	953	633	549	73	73	28	75	21
22	803	580	408	101	35	25	77	22
23	719	534	397	130	33	28	78	23
24	653	502	359	107	35	26	79	24
25	618	477	320	79	30	31	76	25
26	621	456	257	78	28	59	73	26
27	637	451	240	72	28	73	73	27
28	668	456	285	66	18	61	73	28
29	765	442	296	62	9.0	46	72	29
30	1660	410	313	59	21	47	71	30
31	1770		187		81	67		31
Mean	1114	649	487	147	82.3	46.1	84.2	Mean
Runoff In Acre-Feet	68490	38640	29930	8730	5060	2830	5010	Runoff In Acre-Feet

TABLE 7

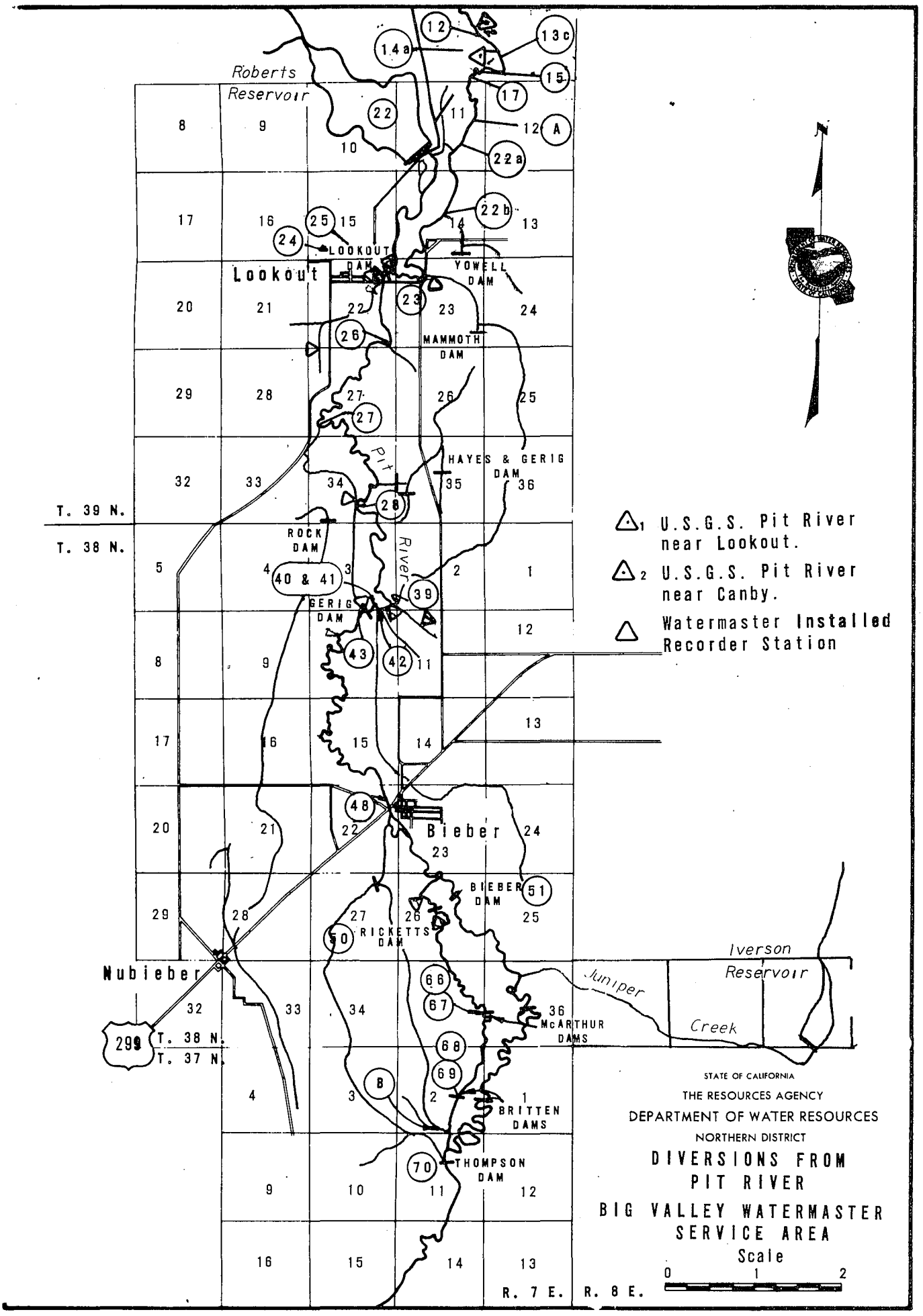
PIT RIVER NEAR BIEBER

Day	March	April	May	June	July	August	September	Day
1	1200	5360	712	161	4.8	3.4	5.6	1
2	1680	5420	670	111	3.3	3.6	5.2	2
3	2160	5330	670	99	3.0	3.8	6.0	3
4	2360	4230	706	66	4.9	3.7	6.4	4
5	2100	3540	706	53	8.0	3.5	6.0	5
6	2060	3030	712	52	9.4	3.1	4.8	6
7	2770	2580	688	45	10	2.6	5.2	7
8	2840	2120	652	44	100	2.3	5.2	8
9	2970	1820	635	82	250	1.9	4.8	9
10	2720	1750	664	50	210	1.6	5.2	10
11	2620	1570	706	73	180	1.6	4.8	11
12	2990	1400	712	201	160	1.6	4.0	12
13	3320	1300	670	215	170	1.5	4.0	13
14	3420	1200	640	145	170	1.6	3.3	14
15	3370	1110	640	132	175	1.8	3.3	15
16	3480	1050	635	143	175	1.8	4.0	16
17	3760	986	696	117	160	1.9	3.6	17
18	4100	994	724	91	145	1.8	5.2	18
19	4120	1070	754	78	120	1.5	20	19
20	3640	1150	688	70	100	1.9	14	20
21	3110	1140	640	66	60	1.8	8.9	21
22	2630	1130	512	58	30	1.9	13	22
23	2200	1070	390	54	20	2.8	12	23
24	1900	1000	414	46	10	2.8	8.9	24
25	1690	970	426	38	8.6	2.8	6.8	25
26	1600	928	205	32	7.0	3.3	8.3	26
27	1590	886	115	25	5.0	3.0	30	27
28	1690	851	79	15	2.8	2.8	11	28
29	2160	816	104	11	2.2	3.3	5.2	29
30	3120	760	267	7.0	2.0	3.6	11	30
31	5040		346		2.6	4.0		31
Mean	2723	1885	554	79.9	74.5	2.5	7.9	Mean
Runoff In Acre-Feet	167400	112200	34070	4720	4580	156	468	Runoff In Acre-Feet

DIVERSIONS FROM
PIT RIVER
BIG VALLEY WATERMASTER SERVICE AREA

DIVERSION NUMBER	NAME	CFS	ACRE FEET
	First priority for the entire river is to maintain channel storage and stock water.	15.00	
12	Ebersale (pump)	3.02	
12c	Duncan	2.86	
14a	Gould	1.20	
15	Hines Brothers	7.26	
17	Barnett	6.98	
22	Roberts Reservoir Water Rights ----------Total		5500
	N. Gerig 5 shares		
	O. Gerig 3 shares		
	D. Babcock 3 shares		
	L.W.Kramer 2 shares		
	Hunt Estate 2 shares		
	M.Kennedy 1 share		
	C.Mamath 1 share		
	C.Hawkins 1 share		
	L.Manchamp 1 share		
	Eicholz 1 share		
22a	Monchamp	1.73	
22b	Bibbens	4.10	
23	Three Corners Diversion ----------Total	18.47	
	Mamath	3.83	
	Hunt Estate	6.30	
	Hayes	3.37	
	S.Gerig	4.97	
24	Lookout Dam		
25	Ollar Ditch ----------Total	15.69	
	Eicholz	11.35	
	Leventon	4.34	
26	Downey (pump)	3.48	
27	Potter(pump)	5.36	
28	Fulcher Ditch ----------Total	15.28	
	Kramer	5.24	
	Holl	4.22	
	Knox Ranch (N.Gerig)	4.22	
39	Ash Creek Pipe		
40	N.Gerig	8.17	
42	Watson Ditch ----------Total	3.04	
	D.Babcock	2.23	
	C.Hawkins	0.81	
43	Gerig Dam		
48	Babcock Pipes ----------Total	31.67	
	Snipes	1.61	
	Kennedy	2.51	
	J.McArthur	7.28	
	Babcock Brothers	14.34	
	S.J.&W.H.Thompson	3.21	
	W.Druwry	2.72	
50	Ricketts Dam		
51	Bieber Dam		
66 & 67	McArthur Dam	12.14	
68 & 69	Britten Dam	11.23	
70	Thompson Dam	11.50	
A	Hallmark Pump	1.77	
B	Campbell Dam	1.28	

Figure 3


Roberts Reservoir
Lookout
LOOKOUT DAM
YOWELL DAM
MAMMOTH DAM
HAYES & GERIG DAM
ROCK DAM
GERIG DAM
Pit River
Bieber
BIEBER DAM
RICKETTS DAM
Nubieber
McARTHUR DAMS
BRITTEN DAMS
THOMPSON DAM
Iverson Reservoir
Juniper Creek
299
T. 39 N.
T. 38 N.
T. 37 N.
R. 7 E.
R. 8 E.
U.S.G.S. Pit River near Lookout.
U.S.G.S. Pit River near Canby.
Watermaster Installed Recorder Station
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM PIT RIVER
BIG VALLEY WATERMASTER SERVICE AREA
Scale
0 1 2

Special Occurrences

Repairs were made to Roberts Reservoir by raising and widening the existing earth dam. Also, a recorder and weir were installed below the outlet to measure the released water.

A headgate and Sparling meter were installed on Herb Hayes' diversion, and a headgate was installed on Dick Bibbens' diversion.

A new 250-horsepower pump (3,000-gpm capacity) was installed with seven sprinkler wheel lines on the Viso (Joiner) Ranch. Sparling meters are to be installed in these systems. Several wheel lines were also installed on the Downey and Duncan Ranches. Meters will be required in these lines to more accurately measure the pumped water.

Burney Creek Watermaster Service Area

The Burney Creek service area is in eastern Shasta County above and below the town of Burney. Figure 4, page 23, shows the Burney Creek stream system including the diversions and roads.

The source of water supply for this service area is Burney Creek, which enters the southern part of the service area and flows through Burney in a northerly direction to the Pit River. The portion of the valley served by this stream is approximately 11 miles long and 2 miles wide, and extends both north and south of Burney. The service area is approximately 3,200 feet in elevation.

Basis of Service

The rights on this creek system were determined by a court reference and set forth in Decree No. 5111, Shasta County Superior Court, dated January 30, 1926. Watermaster service was provided on the creek from 1926 to 1929 under the old Water Commission Act. The service area was created, along with some others, on September 11, 1929, under a new law passed in that year.

The Burney Creek decree sets forth a rotation schedule of distribution. The water users, however, have found it more beneficial to irrigate on a continuous-flow basis (one priority class plus surplus allotments), which is now normal practice. The water allotted to the Greer-Cornaz Ditch is distributed in accordance with supplemental court decrees.

There are 10 water right owners in the area with total allotments of 33.09 cubic feet per second.

Water Supply

The water supply for Burney Creek comes from springs and snowmelt. Most of the watershed lies between the elevations of 4,000 and 7,500 feet on the northeast slopes of Burney Mountain. The creek normally has sufficient water to supply all demands until about the middle of June. The supply then gradually decreases until the end of July. For the remainder of the irrigation season, runoff from perennial springs keeps the flow nearly constant at approximately 40 percent of allotments.

The daily mean discharge of Burney Creek near Burney is presented in Table 8, page 22. The stream gaging station on Burney Creek is downstream from four points of diversion; consequently, the records do not show all of the available water supply of the creek.

Method of Distribution

Water is diverted from Burney Creek, in most cases, by means of low diversion dams, into ditches which convey it to the place of use. Lateral ditches are then used to irrigate the land.

1974 Distribution

The watermaster in the Burney Creek service area was Seth K. Barrett, Water Resources Technician II. Service began June 1 and continued until September 30.

By agreement of the water right owners, all allotments were distributed on a continuous-flow basis.

The water supply for the 1974 season was one of the best on record. This favorable condition, coupled with the fact that the Pierpont Ranch diverted only stockwater and allowed its remaining water rights to be temporarily used by the other diverters, made it unnecessary to apportion the water this season. There was a surplus of flow available to all users most of the time.

Special Occurrences

The stream gaging station that normally records the continuous flow was made inoperable by early flood conditions. This gage has now been relocated downstream at the Park Street Bridge.

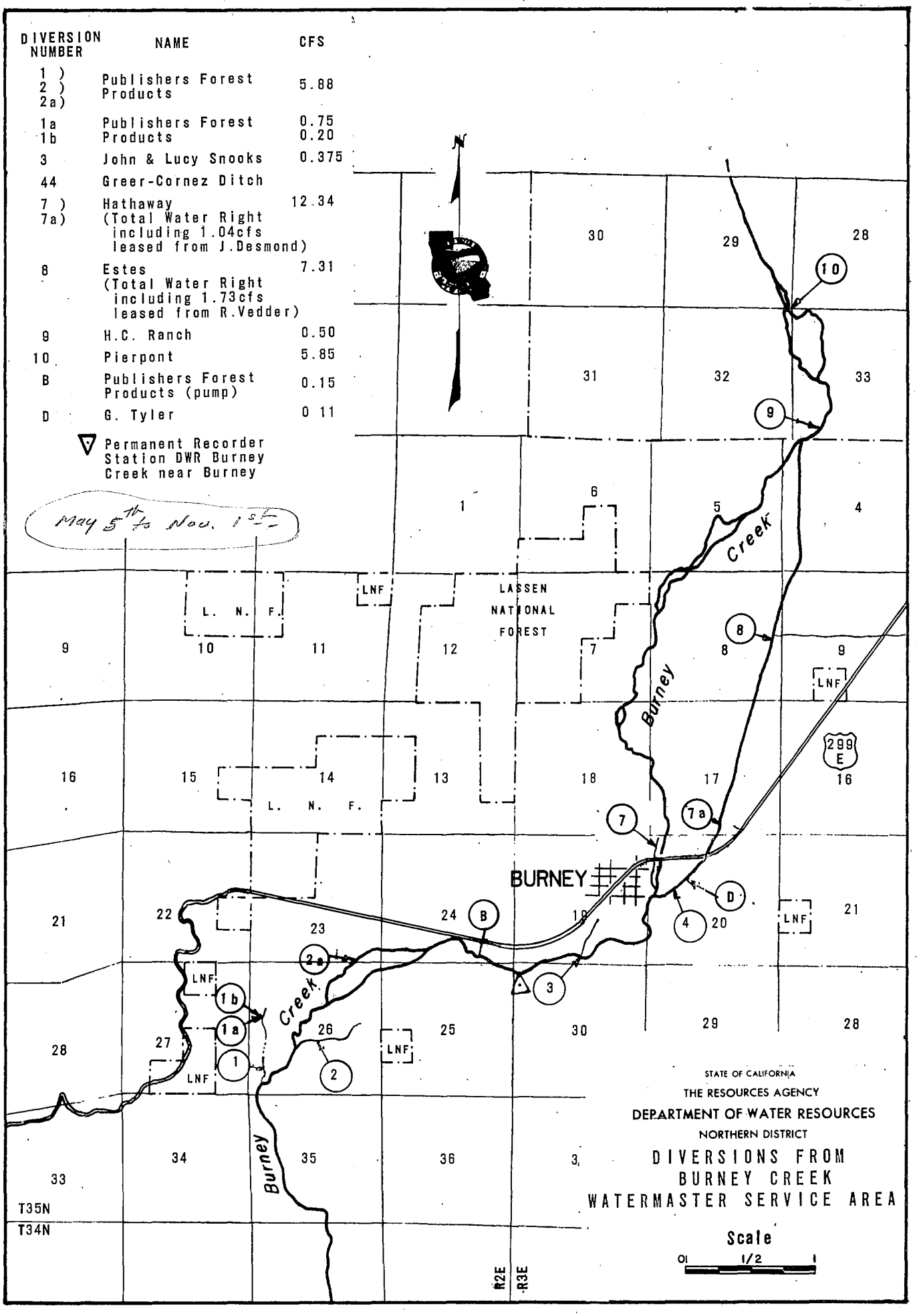
BURNEY CREEK WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 8

BURNEY CREEK NEAR BURNEY

Day	March	April	May	June	July	August	September	Day
1	235	564	195	118	47	44	25	1
2	238	453	195	119	45	42	25	2
3	239	342	193	118	43	39	24	3
4	219	304	188	116	42	37	25	4
5	216	329	188	113	42	39	29	5
6	233	343	192	110	42	37	34	6
7	233	320	197	107	41	33	40	7
8	216	327	204	99	60	32	47	8
9	203	348	203	96	65	30	51	9
10	202	314	192	94	60	29	43	10
11	264	296	184	92	54	28	56	11
12	263	287	179	89	50	27	54	12
13	249	271	172	87	47	25	50	13
14	248	263	164	84	45	25	47	14
15	254	258	159	78	45	30	45	15
16	259	255	153	77	44	31	42	16
17	318	253	150	75	43	28	40	17
18	300	253	147	71	41	26	37	18
19	271	237	140	73	40	24	36	19
20	255	227	130	72	39	24	33	20
21	245	224	124	68	39	22	31	21
22	243	227	122	64	38	22	28	22
23	234	231	120	61	38	25	26	23
24	230	224	120	58	37	25	24	24
25	234	217	122	55	36	25	22	25
26	268	206	128	55	34	23	20	26
27	390	197	131	54	34	24	19	27
28	399	190	131	52	34	24	19	28
29	802	188	129	50	33	25	19	29
30	1000	190	125	48	34	25	19	30
31	480		120		38	25		31
Mean	305	278	158	81.8	42.9	28.9	33.7	Mean
Runoff In Acre-Feet	18720	16540	9713	4865	2638	1775	2003	Runoff In Acre-Feet


DIVERSION NUMBER
NAME
CFS
1) 2) 2a) Publishers Forest Products 5.88
1a Publishers Forest Products 0.75
1b 0.20
3 John & Lucy Snooks 0.375
44 Greer-Cornez Ditch
7) 7a) Hathaway (Total Water Right including 1.04cfs leased from J.Desmond) 12.34
8 Estes (Total Water Right including 1.73cfs leased from R.Vedder) 7.31
9 H.C. Ranch 0.50
10 Pierpont 5.85
B Publishers Forest Products (pump) 0.15
D G. Tyler 0 11
Permanent Recorder Station DWR Burney Creek near Burney
May 5th to Nov. 1st
L. N. F.
LNF
LASSEN NATIONAL FOREST
Burney Creek
BURNEY
299 E
T35N
T34N
R2E
R3E
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM BURNEY CREEK WATERMASTER SERVICE AREA
Scale
0 1/2 1

Butte Creek Watermaster Service Area

The Butte Creek service area is situated in Butte County a few miles southeast of the City of Chico. The watermaster service area extends for about 11 miles along Butte Creek, commencing approximately 4 miles east of Chico and extending downstream to the crossing of Western Canal. It contains about 20,000 acres of valley floor lands at an average elevation of 150 feet.

A map of the Butte Creek stream system is presented in Figure 5, page 29.

Basis of Service

The rights on this stream system were determined by a statutory adjudication and set forth in Decree No. 18917, Butte County Superior Court, dated November 6, 1942. The Butte Creek watermaster service area was created on January 7, 1943.

There are presently 44 water rights owners in the service area (below Diversion 50) with allotments totaling 422.30 cubic feet per second.

The Butte Creek decree established three priority classes for summer use under Schedule 7, a surplus class inferior to the above rights, and a special class for Hamlin Slough. Schedule 3 of the decree defines the rights for rediversion (Diversion 50) of foreign water delivered into Butte Creek from the West Branch of Feather River.

The Water Resources Control Board, on September 18, 1969, granted permits for the following applications to appropriate water from Butte Creek: applications 22321, Gorrill Land Company; 22534, Garrison Patrick; and 22564, Louis C. Camenzind, Jr. These appropriative rights are also under control of the watermaster.

Water Supply

Butte Creek, the major source of water, drains approximately 150 square miles of the western slope of the Sierra Nevada Mountains in the northeasterly portion of Butte County above the watermaster service area. The maximum elevation in the watershed is about 7,000 feet.

Normally, snowmelt produces sustained high flows in the creek until about the end of June, after which perennial springs continue to produce flows of more than 40 cubic feet per second. Additional water is imported for distribution from the West Branch Feather River by means of the Hendricks (Toadtown) Canal through De Sabla Reservoir and Powerhouse into Butte Creek.

Records of the daily mean discharge at stream gaging stations in the Butte Creek service area are presented in Tables 9, 10, and 11, pages 26 and 27.

Method of Distribution

Water is diverted from Butte Creek by pumping and by gravity diversions. Parrott Investment Company, M & T. Inc., Dayton Mutual Water Company, and Durham Mutual Water Company divert relatively large amounts of water by gravity into ditches leading to their individual distribution systems. Various methods of irrigation are in general practice, including contour checks, strip or border checks, basin checks, furrows, wild flooding, and sprinklers. The use of sprinklers has increased in the past few years, especially for orchards.

1974 Distribution

Watermaster service began April 18, 1974, in the Butte Creek service area and continued until September 30, with Kenneth E. Morgan, Water Resources Engineering Associate, as watermaster.

The available water supply in Butte Creek for the 1974 irrigation season was one of the best on record.

The appropriative water rights of the Newhall Land and Farming Company (application 22039), Gorrill Land Company (application 22321), Garrison Patrick (application 22534), and Louis Camenzind, Jr. (application 22564) were satisfied through their periods of the irrigation season.

The decreed surplus rights of the Newhall Land and Farming Company and the Gorrill Land Company were satisfied throughout the irrigation season.

The lifting of rice allotments by the Federal Government allowed the Gorrill Land Company and the Newhall Land and Farming Company to substantially increase their rice acreage for 1974. The season's crop yields were very good.

BUTTE CREEK WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 9

BUTTE CREEK NEAR CHICO

Day	March	April	May	June	July	August	September	Day
1	3980	4860	617	472	278	188	170	1
2	2740	3570	631	468	274	186	169	2
3	1830	2490	623	469	268	194	168	3
4	1450	1940	622	462	265	194	168	4
5	1250	1630	629	449	264	194	167	5
6	1130	1430	642	438	259	195	165	6
7	1100	1260	659	424	254	185	164	7
8	1170	1150	691	414	320	193	164	8
9	1010	1140	714	403	398	203	162	9
10	870	1010	695	395	317	199	163	10
11	1380	944	663	391	287	197	161	11
12	1810	906	646	379	277	187	159	12
13	1480	853	609	377	272	171	162	13
14	1260	815	588	371	267	180	162	14
15	1160	793	584	363	249	192	165	15
16	1100	776	558	360	235	198	166	16
17	1070	766	544	362	243	187	162	17
18	1030	771	522	347	247	178	166	18
19	991	727	499	344	245	183	160	19
20	932	696	483	353	240	184	159	20
21	887	682	462	333	242	180	161	21
22	861	692	461	323	240	186	162	22
23	846	747	463	315	239	190	151	23
24	828	726	462	308	223	190	152	24
25	882	676	470	301	209	188	154	25
26	1060	641	485	295	205	179	156	26
27	1850	608	513	290	201	189	157	27
28	2340	590	528	287	198	177	155	28
29	6620	583	512	281	194	173	156	29
30	9600	593	494	276	192	175	146	30
31	4780		479		189	171		31
Mean	1913	1169	566	368	251	187	161	Mean
Runoff In Acre-Feet	117600	69550	34810	21920	15450	11480	9580	Runoff In Acre-Feet

BUTTE CREEK WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 10

BUTTE CREEK NEAR DURHAM

Day	March	April	May	June	July	August	September	Day
1	4080	4950	581	252	46	53	48	1
2	2830	3580	575	247	74	52	41	2
3	1770	2430	563	252	72	53	38	3
4	1320	1810	557	247	81	53	33	4
5	1120	1490	515	229	88	54	33	5
6	1020	1280	500	217	83	53	34	6
7	1170	1130	500	199	81	41	32	7
8	1100	1040	520	172	148	43	30	8
9	963	1020	535	196	264	51	30	9
10	840	906	522	241	164	48	37	10
11	1340	847	507	208	126	56	42	11
12	1820	817	505	128	110	61	42	12
13	1430	778	479	119	96	47	45	13
14	1200	750	441	103	91	39	37	14
15	1110	731	430	92	79	40	50	15
16	1050	726	400	86	67	44	45	16
17	1020	722	384	95	66	39	106	17
18	990	726	356	77	69	34	156	18
19	945	697	309	98	69	34	148	19
20	897	672	288	115	65	35	140	20
21	896	655	263	83	71	34	161	21
22	923	658	247	82	76	34	155	22
23	910	695	237	75	73	37	131	23
24	898	684	236	38	60	40	83	24
25	949	643	255	29	50	46	76	25
26	1110	615	267	24	54	37	77	26
27	1900	592	304	20	59	51	81	27
28	2540	576	325	16	54	52	79	28
29	7070	559	312	14	53	50	80	29
30	10300	559	293	13	54	49	81	30
31	4720		266		55	58		31
Mean	1943	1111	402	126	83.8	45.7	72.4	Mean
Runoff In Acre-Feet	119500	66130	24740	7472	5153	2813	4306	Runoff In Acre-Feet

TABLE 11

TOADTOWN CANAL ABOVE BUTTE CANAL

Day	March	April	May	June	July	August	September	Day
1	108	114	117	110	109	75	80	1
2	111	108	115	109	109	78	80	2
3	125	122	116	109	109	85	79	3
4	122	119	115	108	108	84	79	4
5	121	116	113	108	106	84	79	5
6	120	116	112	108	104	80	78	6
7	119	121	111	108	102	76	78	7
8	118	121	112	109	109	92	77	8
9	97	121	112	109	112	96	77	9
10	59	118	107	109	108	94	77	10
11	119	120	113	108	107	93	76	11
12	115	123	114	108	107	81	76	12
13	117	121	113	108	109	71	79	13
14	118	119	116	108	108	85	78	14
15	117	119	116	108	91	95	78	15
16	115	119	113	108	84	94	78	16
17	114	118	110	108	97	87	77	17
18	116	118	110	108	100	86	77	18
19	118	119	112	108	99	86	76	19
20	117	120	115	108	102	86	74	20
21	116	119	115	107	107	85	73	21
22	116	118	115	106	107	96	73	22
23	115	119	114	108	106	96	73	23
24	115	119	113	110	88	95	72	24
25	116	118	109	109	85	94	72	25
26	114	117	111	109	83	95	71	26
27	118	116	111	108	81	87	72	27
28	110	115	110	109	80	80	72	28
29	113	114	111	110	79	79	72	29
30	101	116	111	110	78	81	71	30
31	110		110		77	81		31
Mean	113	118	113	108	98.4	86.4	75.8	Mean
Runoff In Acre-Feet	6960	7030	6930	6450	6050	5310	4510	Runoff In Acre-Feet

Diversion #	Water Right Owner	Priority 1st	Priority 2nd	Priority 3rd	Surplus	Import	Application Permit
Butte Creek							
50	M. & T. Incorporated	3.00			25.00	53.33*	
	Parrott Investment Company				25.00	53.33*	
	McClain, Benson, et al	3.00					
	Dayton Mutual Water Company	16.00				3.33*	
	*Water imported by PG&E from West Branch Feather River via Hendricks Canal and released into Butte Creek, less 5% for conveyance losses.						
53[2/]	U. S. Department of Agriculture	2.00					
54	Patrick	4.445					13.0[1/]
	Smith	0.555					
55	Camenzind Brothers	5.00					6.50[1/]
56	Durham Mutual Water Company	44.70					
	Parrott Investment Company	2.00					
	Carlson	0.48					
	Bell	0.39					
	Domom Brothers	0.67					
	Logan	0.01					
	Vernoga	1.447					
	Konyn - Amerio	0.40					
	Bebich	0.446					
	Jugum	0.447					
	Wheelock	0.26					
	Total	51.25					
57[2/]	Coats	2.00					
58[2/]	Wakefield	0.61					
	Hansen				2.50		
59B[2/]	Brandt	0.39					
60	Newhall Land & Farming Company		6.00	0.75	21.25		150.00[3/]
60A[2/]	Knowles	0.66					
	Phillips	0.66					
61	Gorrill Land Company[4/]			1.00[5/]	20.70[5/]		75.00[3/]
62[2/]	White, Mead, McAlister, & Ryon			1.00	9.50		
Hamlin Slough							
	Newhall Land & Farming Company	16.60					
	Gorrill Land Company	21.70[5/]					

1/ March 1 - June 30

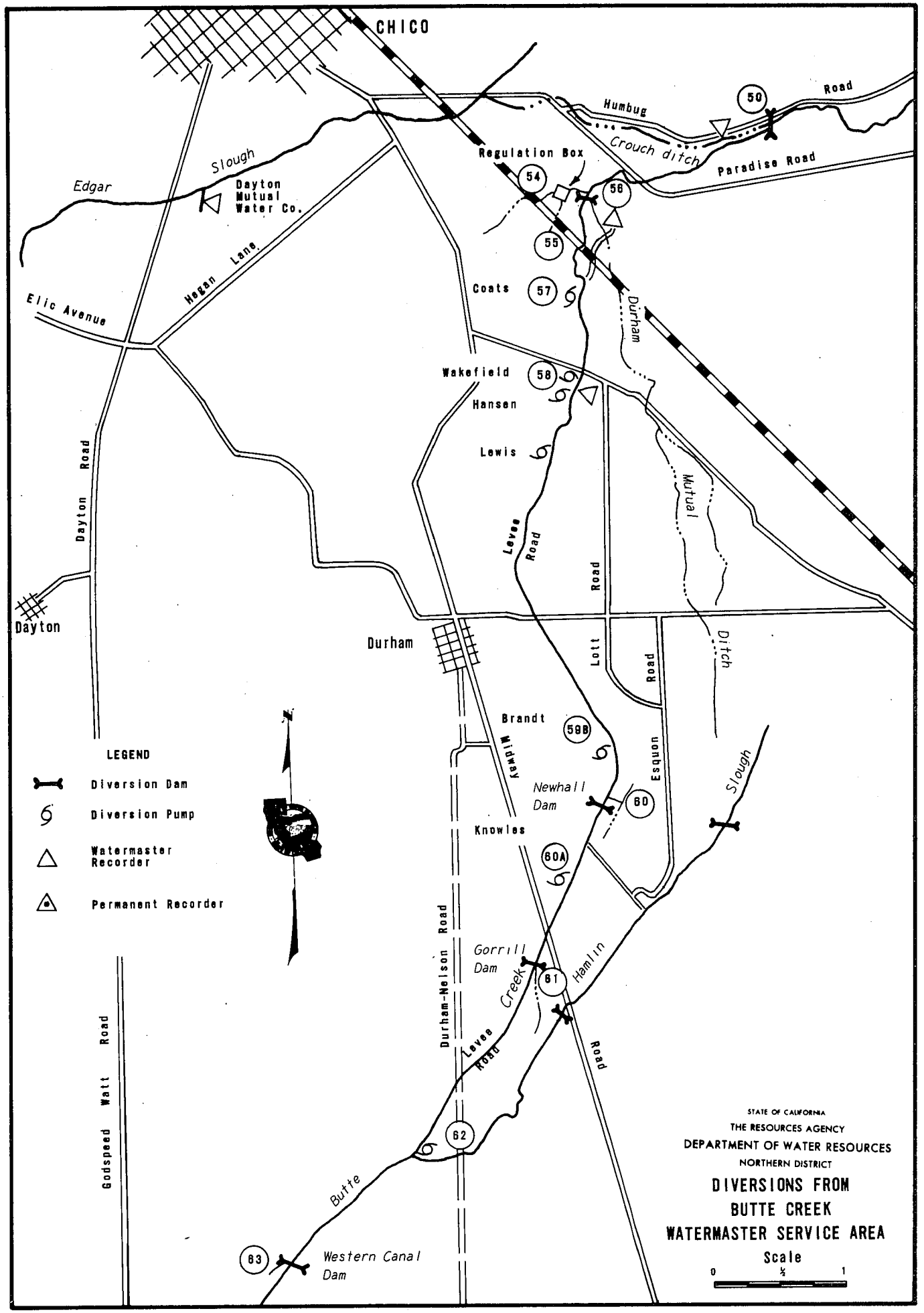
2/ Pumps

3/ March 15 - June 15

4/ See Hamlin Slough

5/ Total diversions from Butte Creek and Hamlin Slough not to exceed 21.70 cfs.

Figure 5


CHICO
Humbug
Road
50
Crouch ditch
Paradise Road
Regulation Box
54
56
55
Slough
Edgar
Dayton
Mutual
Water Co.
Hegan Lane
Elic Avenue
Coats
57
Durham
Wakefield
58
Hansen
Lewis
Levee Road
Mutual
Dayton Road
Dayton
Durham
Lott Road
Ditch
Brandt
59B
Midway
Newhall Dam
60
Esquon
Slough
Knowles
60A
Durham-Nelson Road
Gorrill Dam
Creek
61
Hamlin
Road
Levee Road
Godspeed Watt Road
62
Butte
63
Western Canal Dam
LEGEND
Diversion Dam
Diversion Pump
Watermaster Recorder
Permanent Recorder
N
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
BUTTE CREEK
WATERMASTER SERVICE AREA
Scale
0
½
1

Cow Creek Watermaster Service Area

The Cow Creek service area is in central Shasta County in the foothills east of Redding. Figures 6 through 6e, pages 33 through 38, show the Cow Creek stream system, including the diversions and major access roads.

The source of water supply for this service area consists of three major creek systems. They are North Cow Creek (sometimes referred to as Little Cow Creek), Oak Run Creek, and Clover Creek. These creeks flow in a westerly direction to their confluence in the Millville-Palo Cedro area and thence south to the Sacramento River east of the City of Anderson. The service area is generally a narrow strip of land on both sides of each of these creeks. In some cases water is exported from one creek to the other.

Basis of Service

The water rights on each of these creek systems were determined by court references and set forth in separate decrees. Water rights for these creeks were set forth by Shasta County Superior Court decrees as follows:

Creek	Decree No.	Date
North Cow	5804	April 29, 1932
Oak Run	5701	July 22, 1932
Clover	6904	October 4, 1937

The North Cow Creek decree sets forth a rotation schedule of distribution. The water users, however, have found it more beneficial to irrigate on a continuous-flow basis which is now normal practice. Only one priority allotment was provided in each of the Cow Creek service area decrees except for the Oak Run Creek decree which contains a surplus allotment.

The Cow Creek watermaster service area was originally created on October 17, 1932, including North Cow Creek and Oak Run Creek water rights. On January 21, 1938, the service area was expanded to include the Clover Creek rights.

There are 90 water right owners in the area with total allotments of 67.367 cubic feet per second.

Water Supply

The water supply for this service area is derived mostly from springs and seepage, with some early snowmelt runoff. The watershed varies in elevation from 500 to 5,000 feet and consists primarily of low brushy hills which do not accumulate a heavy snowpack. Relatively large amounts of precipitation during the winter months normally produce substantial seepage and springs that flow through the irrigation season. The creeks normally have sufficient water to supply all demands until late July. The supply then gradually decreases to an average of about 60 to 70 percent of allotments by around mid-September.

The daily mean discharge of North Cow Creek near Ingot is presented in Table 12, page 32. The stream gaging station on North Cow Creek is downstream of many of the diversions and is used by the watermaster primarily to indicate changes in flow conditions rather than amounts of water available. Consequently, the records do not show all of the available water supply of the creek.

Method of Distribution

Water is diverted from the creeks, in most cases by means of low diversion dams, into ditches which convey it to the place of use. Lateral ditches are then used to spread it over the land. Irrigation has been on a continuous-flow basis instead of by rotation since 1934.

1974 Distribution

Seth K. Barrett, Water Resources Technician II, was the watermaster in the Cow Creek service area from June 1 until September 30.

This service area includes Cedar, North Cow, Oak Run, and Clover Creeks. The water supply for the 1974 season was one of the best on record and made it unnecessary to apportion water. In all but Cedar Creek there was a surplus of flow available to all users most of the time.

COW CREEK WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

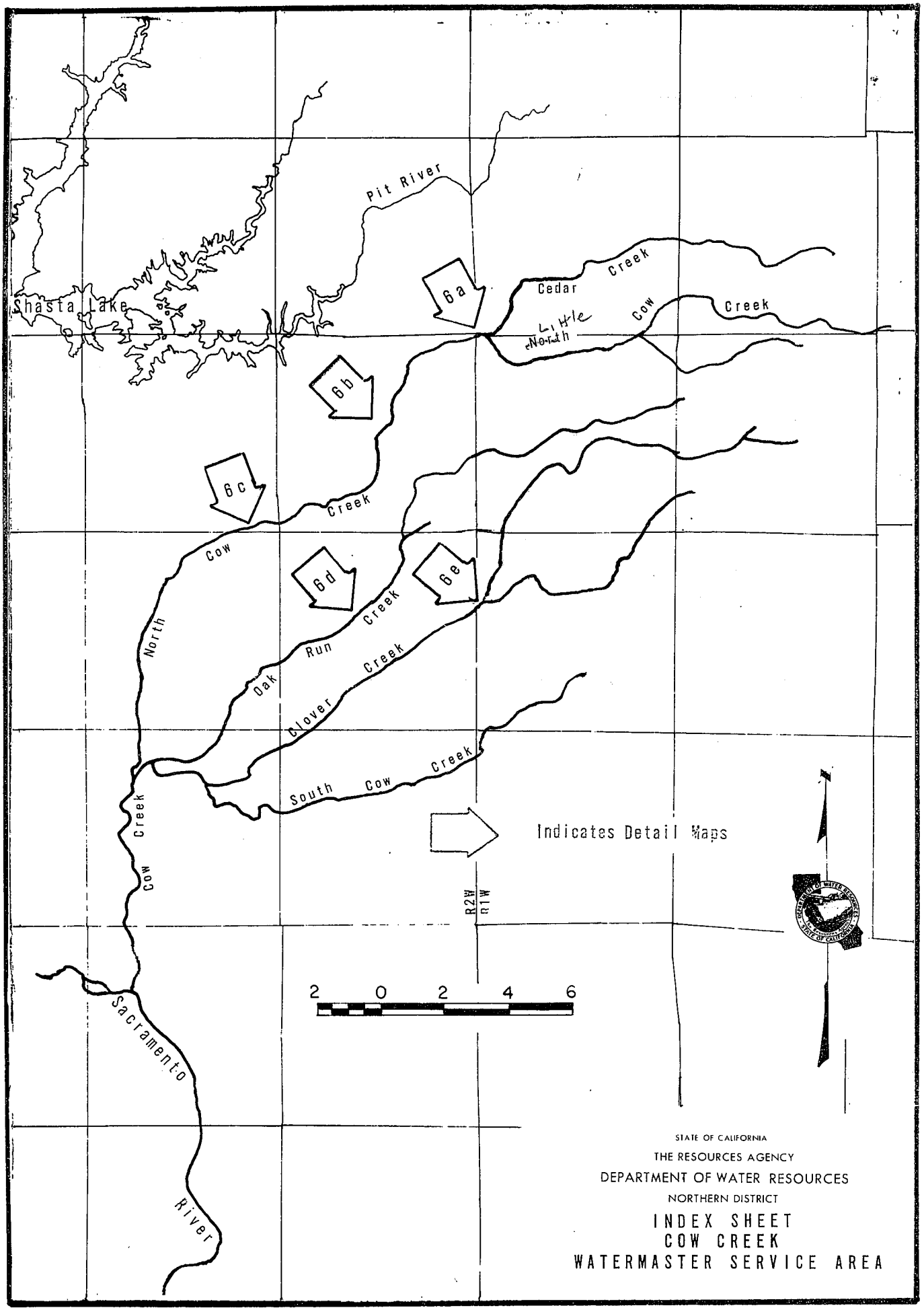
TABLE 12

NORTH COW CREEK NEAR INGOT

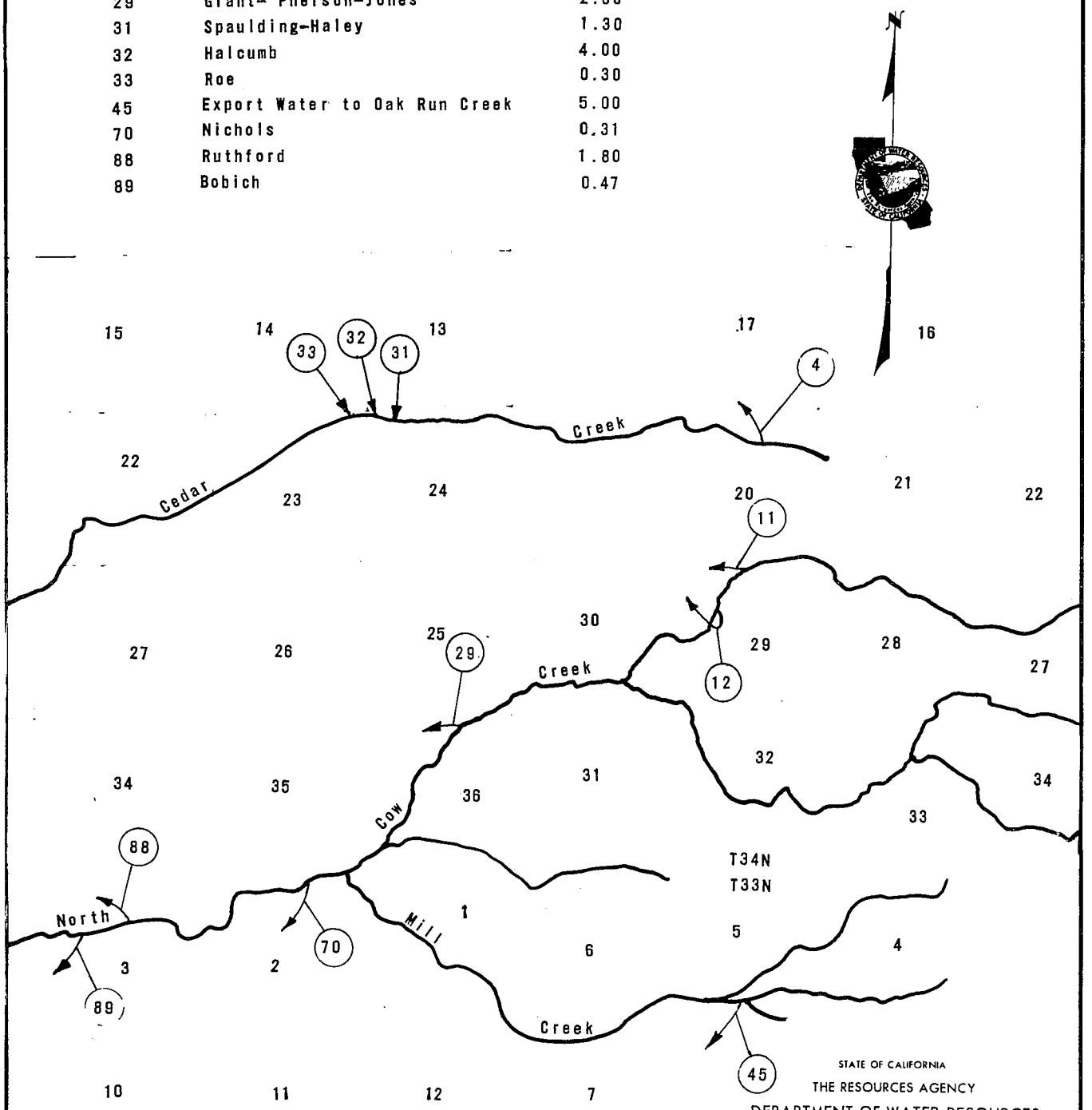
Day	March	April	May	June	July	August	September	Day
1				91*	32	17	14	1
2				89	31	17	14	2
3				87	30	16	13	3
4				84	29	16	13	4
5				82	29	19	13	5
6				79	29	22	13	6
7				76	27	19	13	7
8				73	54	18	13	8
9				70	45	17	13	9
10				68	55	17	12	10
11				67	41	17	12	11
12				65	35	17	12	12
13				64	32	17	13	13
14				62	31	17	14	14
15				61	28	17	15	15
16				59	28	17	15	16
17				58	26	17	14	17
18				57	28	16	14	18
19				54	25	15	15	19
20				56	24	15	14	20
21				53	23	15	14	21
22				49	22	14	14	22
23				47	21	17	12	23
24				43	21	15	12	24
25				41	20	15	12	25
26				39	19	15	12	26
27				38	19	14	12	27
28				35	19	14	12	28
29				34	17	14	12	29
30				32	17	14	12	30
31					16	13		31
Mean				60.4	28.1	16.2	13.1	Mean
Runoff In Acre-Feet				3596	1731	997	779	Runoff In Acre-Feet

* Beginning of Record

Figure 6


Pit River
Shasta Lake
6a
Cedar Creek
Little North Cow Creek
6b
6c
Cow Creek
North Cow Creek
6d
6e
Oak Run Creek
Clover Creek
South Cow Creek
Cow Creek
Indicates Detail Maps
R2W
R1W
2 0 2 4 6
Sacramento River
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
INDEX SHEET
COW CREEK
WATERMASTER SERVICE AREA

Diversion Number	Owner	CFS
4	Bishop	0.50
11	Mc Millian	0.46
12	Benbow	0.63
29	Grant- Pherson-Jones	2.60
31	Spaulding-Haley	1.30
32	Halcumb	4.00
33	Roe	0.30
45	Export Water to Oak Run Creek	5.00
70	Nichols	0.31
88	Ruthford	1.80
89	Bobich	0.47



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FOR
UPPER USERS NORTH COW CREEK

COW CREEK
WATERMASTER SERVICE AREA

Scale
0 1/2 1

Figure 6b

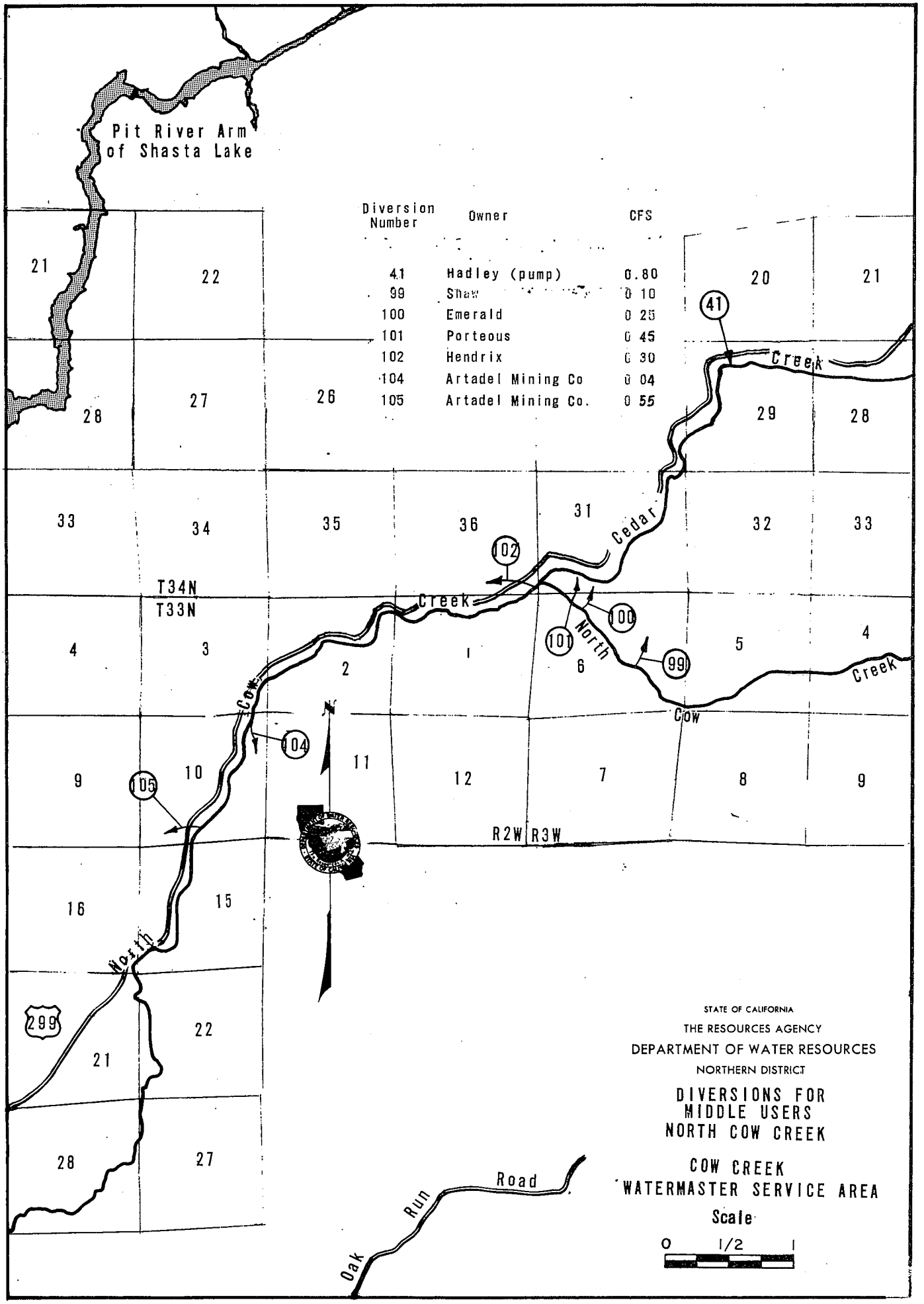
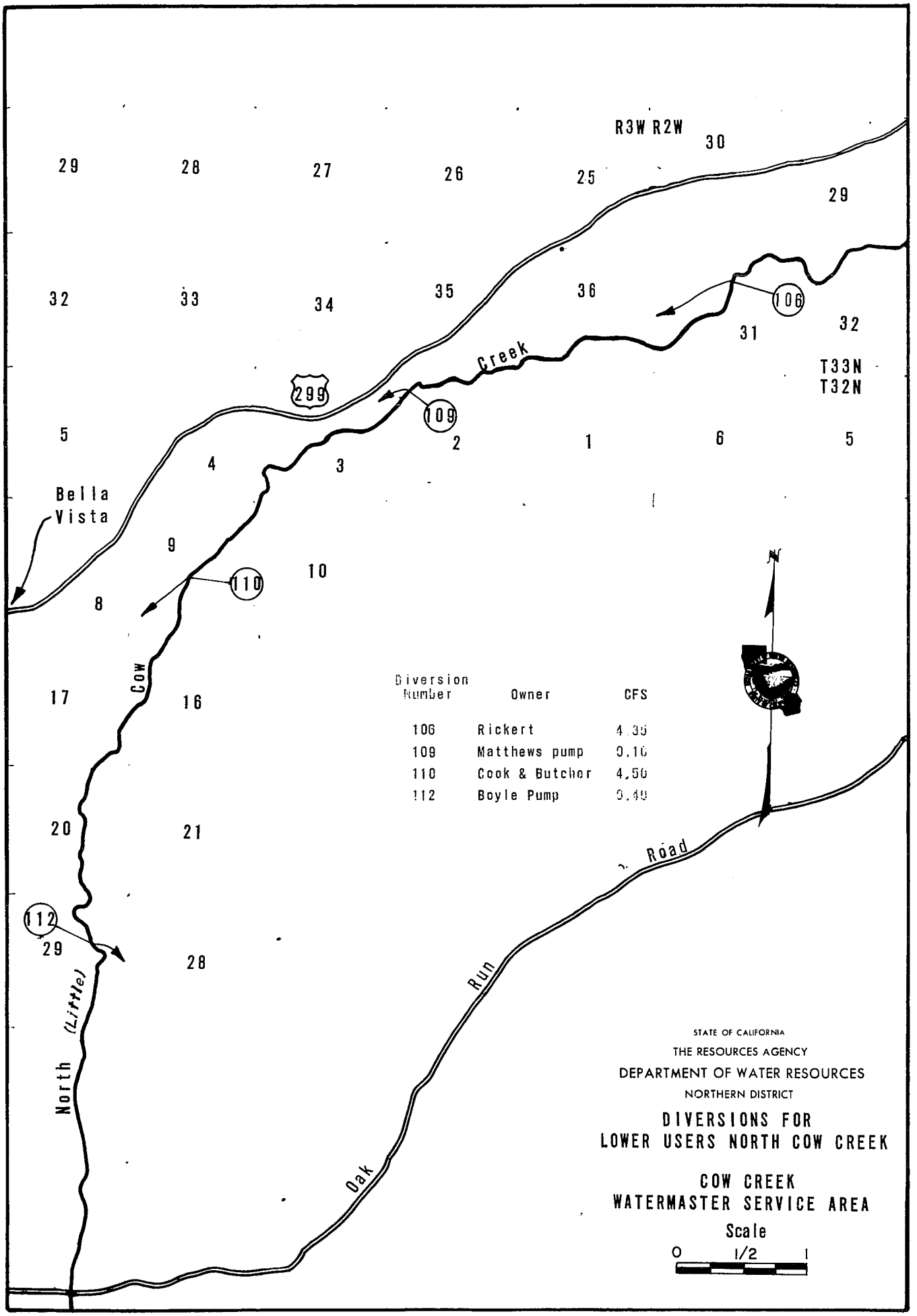

Pit River Arm of Shasta Lake
Diversion Number
Owner
CFS
41 Hadley (pump) 0.80
99 Shaw 0.10
100 Emerald 0.25
101 Porteous 0.45
102 Hendrix 0.30
104 Artadel Mining Co 0.04
105 Artadel Mining Co. 0.55
Cedar Creek
Cow Creek
North Cow Creek
T34N
T33N
R2W R3W
299
Oak Run Road
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FOR MIDDLE USERS NORTH COW CREEK
COW CREEK WATERMASTER SERVICE AREA
Scale
0 1/2 1

Figure 6c


R3W R2W
30
29
28
27
26
25
29
32
33
34
35
36
106
31
32
Creek
T33N
T32N
299
109
5
4
3
2
1
6
5
Bella
Vista
9
10
110
8
Cow
17
16
20
21
112
29
28
North (Little)
Run
Oak
Road
Diversion Number
Owner
CFS
106
Rickert
4.35
109
Matthews pump
0.10
110
Cook & Butcher
4.50
112
Boyle Pump
0.49
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FOR
LOWER USERS NORTH COW CREEK
COW CREEK
WATERMASTER SERVICE AREA
Scale
0
1/2
1

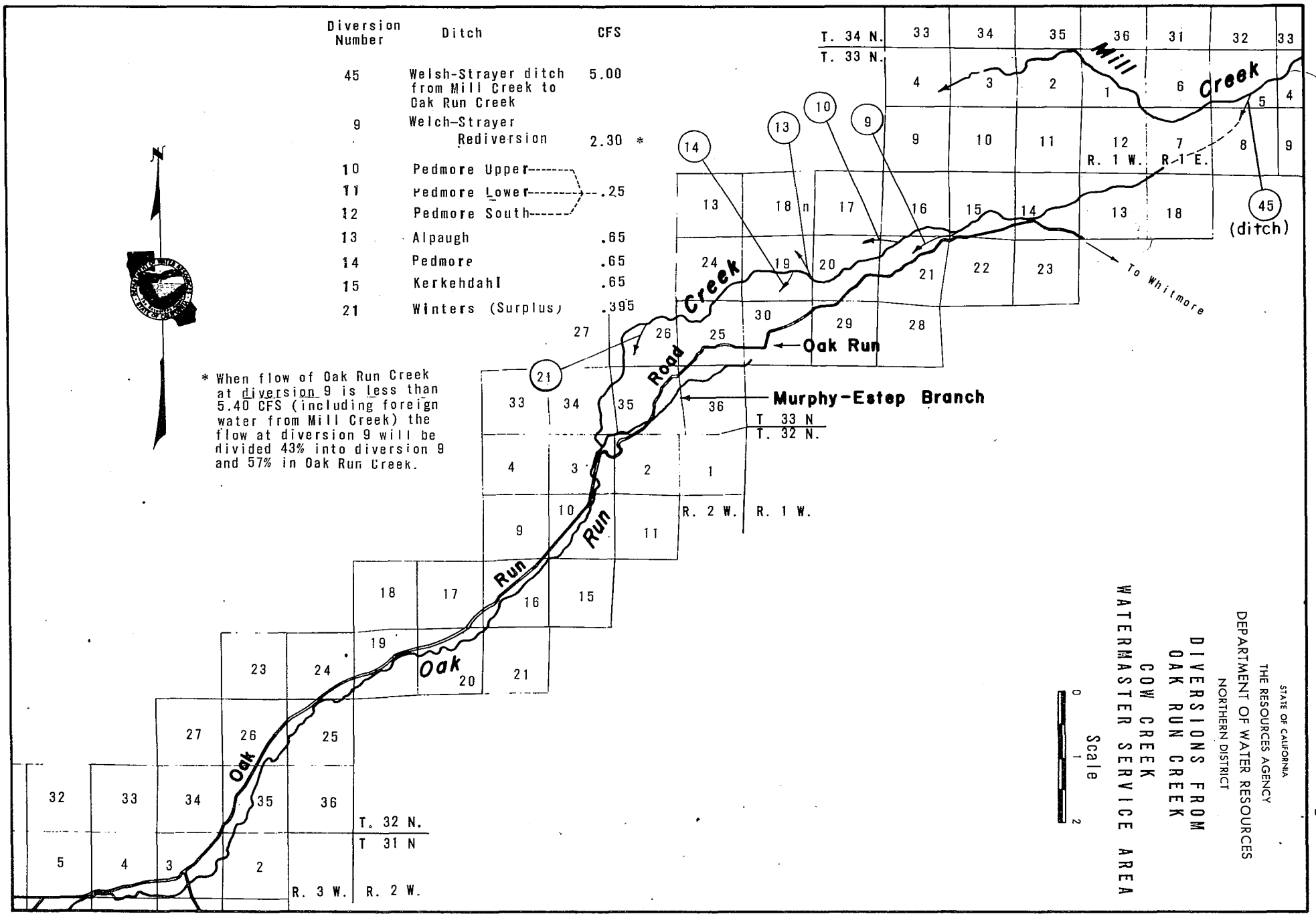

Diversion Number
Ditch
CFS
45 Welsh-Strayer ditch from Mill Creek to Oak Run Creek
9 Welch-Strayer Rediversion 2.30 *
10 Pedmore Upper
11 Pedmore Lower .25
12 Pedmore South
13 Alpaugh .65
14 Pedmore .65
15 Kerkehdahl .65
21 Winters (Surplus) .395
* When flow of Oak Run Creek at diversion 9 is less than 5.40 CFS (including foreign water from Mill Creek) the flow at diversion 9 will be divided 43% into diversion 9 and 57% in Oak Run Creek.
T. 34 N.
T. 33 N.
T. 33 N
T. 32 N.
T. 32 N.
T 31 N
R. 1 W.
R. 1 E.
R. 2 W.
R. 1 W.
R. 3 W.
R. 2 W.
Mill Creek
Oak Run
Murphy-Estep Branch
Oak Run Creek
Oak Run
Oak
Road
To Whitmore
(ditch)
Scale
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
OAK RUN CREEK
COW CREEK
WATERMASTER SERVICE AREA

Figure 6d

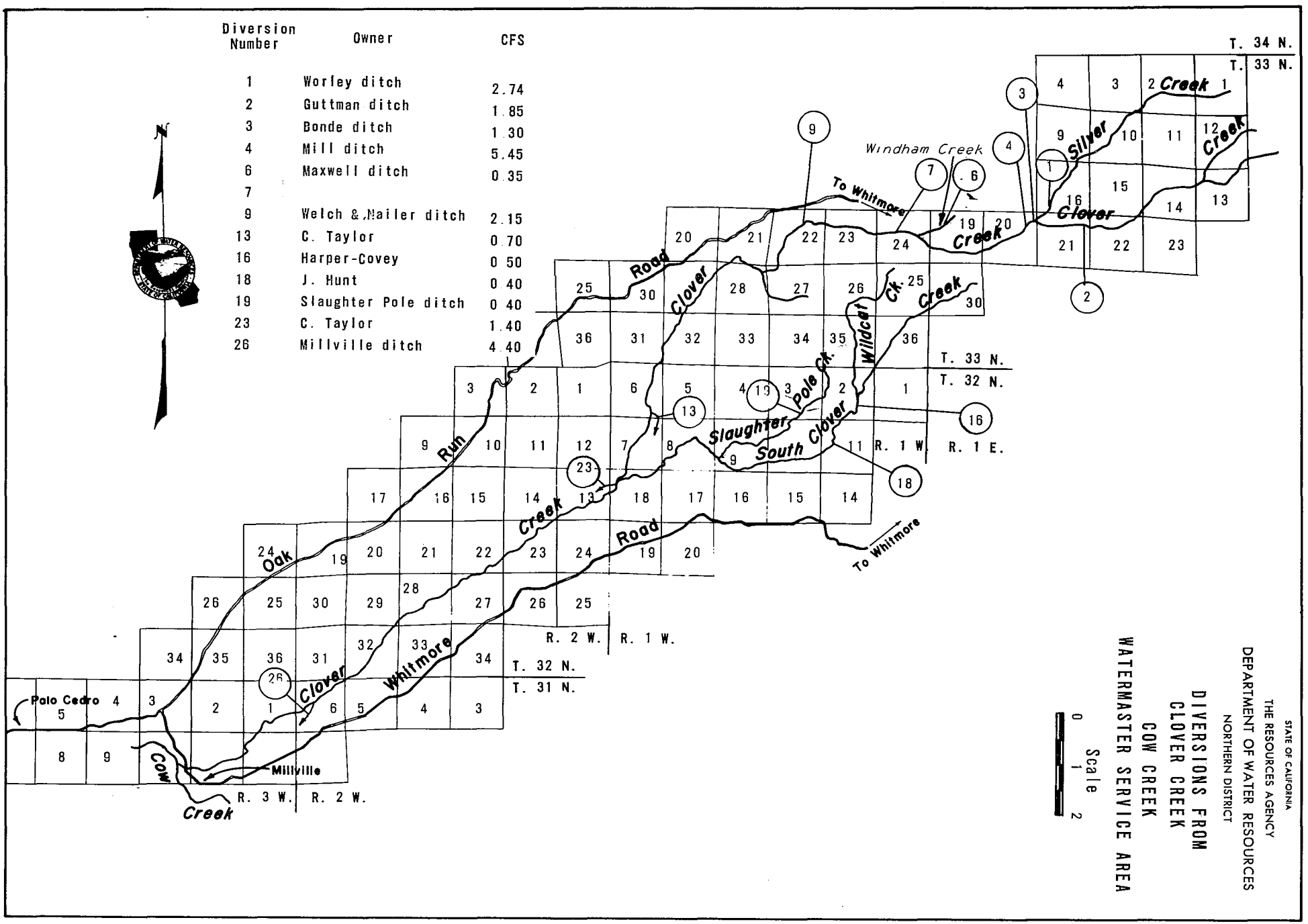

Diversion Number
Owner
CFS
1 Worley ditch 2.74
2 Guttman ditch 1.85
3 Bonde ditch 1.30
4 Mill ditch 5.45
6 Maxwell ditch 0.35
7
9 Welch & Nailer ditch 2.15
13 C. Taylor 0.70
16 Harper-Covey 0.50
18 J. Hunt 0.40
19 Slaughter Pole ditch 0.40
23 C. Taylor 1.40
26 Millville ditch 4.40
N
T. 34 N.
T. 33 N.
T. 33 N.
T. 32 N.
T. 32 N.
T. 31 N.
R. 3 W.
R. 2 W.
R. 1 W.
R. 1 E.
Windham Creek
To Whitmore
Silver Creek
Clover Creek
Road
Clover Creek
Wildcat Ck.
Pole Ck.
Slaughter Run
South Clover Creek
Oak Creek
Road
To Whitmore
Whitmore
Clover
Palo Cedro
Cow Creek
Millville
Scale
0 1 2
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
CLOVER CREEK
COW CREEK
WATERMASTER SERVICE AREA

Figure 6e

Digger Creek Watermaster Service Area

The Digger Creek service area is situated in southeastern Shasta County and northeastern Tehama County.

Digger Creek forms a portion of the boundary line between Shasta and Tehama Counties. It drains an area of approximately 45 square miles on the western slopes of mountains situated immediately west of Lassen National Park. The creek flows in a westerly direction through the town of Manton to its confluence with North Fork Battle Creek. Manton, the only community in the area, is located approximately 40 miles northeast of Red Bluff.

A map of the Digger Creek stream system is presented as Figure 7, page 41.

Basis of Service

The rights to use of the waters of Digger Creek were determined by five court adjudications. The Crooker Ditch, now combined with the Harrison Ditch, may divert all the water in the creek at its point of diversion. Diversions below this point, though defined by decree, are not in the service area.

Four Tehama County Superior Court decrees define the rights included in the service area. These decrees are listed on page 40.

The four decrees have, in effect, divided the water rights on the creek into two groups, the upper users and the lower users. The three upper users irrigate land adjoining the stream so that all water not consumptively used returns to Digger Creek. The lower users are located within a 5-square-mile area. Very little runoff from the lower users returns to the creek.

The water rights of the three upper users are absolute and not correlative to the lower users; therefore, allotments are not cut proportionally as Digger Creek flows decrease. Since the lower users have to stand all deficiencies, the upper users, in effect, have first priority allotments, and the lower users have second and third priority allotments.

The Digger Creek watermaster service area was created June 11, 1964, and watermaster service has been provided each year since that time. There are 38 water right owners in the area with total allotments of 23.225 cubic feet per second.

Water Supply

Precipitation, occurring principally in the winter months, is typical of Northern California foothill areas. Snowmelt contributes to the early runoff but the summer streamflow is primarily from springs. In average runoff years there is sufficient flow in Digger Creek, with careful regulation, to satisfy all decreed allotments throughout the entire irrigation season. However, serious deficiencies occur in dry years.

The estimated daily mean discharge of Digger Creek below the mouth of the South Fork is presented in Table 13, page 40.

Method of Distribution

Irrigation is accomplished principally by wild flooding, although border checks and sprinklers are used on a few fields. Small diversion dams are placed in the stream channel to divert water into ditches for conveyance to the fields.

1974 Distribution

Watermaster service began in the Digger Creek service area on June 1 and continued through September 30. Seth K. Barrett, Water Resources Technician II, was the watermaster during this period.

The water supply for the 1974 season was one of the best on record. There was a surplus flow past the lowest diversion at all times; therefore, apportionment of the water was unnecessary.

Decrees Defining Digger Creek Water Rights

Case	Decree No.	Date Entered
Gransbury v. Edwards	2213	August 12, 1899
Wells v. Pritchard	3214	May 27, 1913
Harrison et al v. Kaler et al	3327	October 16, 1917
Herrick v. Forward	4570	February 24, 1927

DIGGER CREEK WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

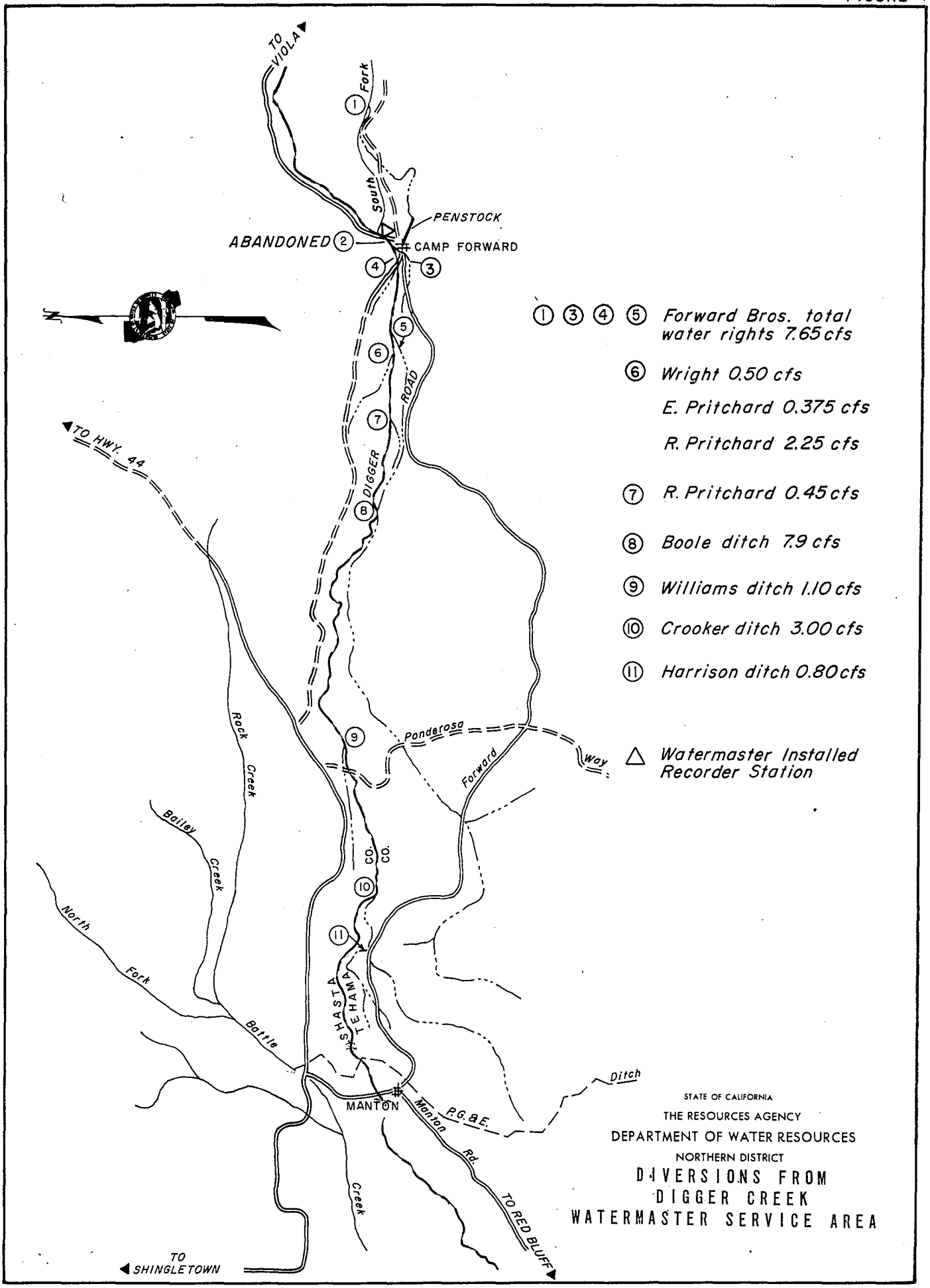
TABLE 13

DIGGER CREEK BELOW SOUTH FORK BRANCH

Day	March	April	May	June	July	August	September	Day
1					63	37	27	1
2					61	37	26	2
3					58	36	26	3
4					57	35	26	4
5					56	35	26	5
6				96*	55	35	26	6
7				96	53	34	26	7
8				87	63	34	26	8
9				87	63	33	25	9
10				96	61	33	25	10
11				104	54	33	24	11
12				130	52	32	24	12
13				104	51	32	24	13
14				96	49	32	24	14
15				92	48	31	24	15
16				87	47	30	23	16
17				84	46	30	23	17
18				82	45	30	23	18
19				80	45	30	23	19
20				76	44	30	23	20
21				77	43	29	22	21
22				82	42	29	22	22
23				80	41	28	22	23
24				71	41	28	22	24
25				67	40	27	22	25
26				62	40	27	22	26
27				62	39	27	22	27
28				63	39	27	22	28
29				64	38	27	22	29
30				63	38	27	22	30
31					37	27		31
Mean				87.0	48.7	31.0	23.8	Mean
Runoff In Acre-Feet				4141	2993	1908	1416	Runoff In Acre-Feet

* Beginning of Record

FIGURE 7


TO VIOLA
South Fork
PENSTOCK
ABANDONED (2)
CAMP FORWARD
(4) (3)
(5)
(6)
DIGGER ROAD
(7)
TO HWY. 44
(8)
Rock Creek
Bailey Creek
North Fork Battle Creek
(9)
Ponderosa Way
Forward
CO.
CO.
(10)
(11)
SHASTA
TEHAMA
MANTON
Manton Rd.
P.G.&E.
Ditch
TO RED BLUFF
TO SHINGLETOWN
(1) (3) (4) (5) Forward Bros. total water rights 7.65 cfs
(6) Wright 0.50 cfs
E. Pritchard 0.375 cfs
R. Pritchard 2.25 cfs
(7) R. Pritchard 0.45 cfs
(8) Boole ditch 7.9 cfs
(9) Williams ditch 1.10 cfs
(10) Crooker ditch 3.00 cfs
(11) Harrison ditch 0.80 cfs
△ Watermaster Installed Recorder Station
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM DIGGER CREEK WATERMASTER SERVICE AREA

French Creek Watermaster Service Area

The French Creek service area is situated in Scott Valley, western Siskiyou County, near the town of Etna. The major sources of water supply are French, Miners, and North Fork French Creeks. French Creek flows in a northeasterly direction through the central part of the service area. Miners Creek begins east of the headwaters of French Creek and flows in a northerly direction, joining French Creek about 3 miles above its confluence with Scott River. North Fork French Creek begins north of the headwaters of French Creek and flows easterly, joining French Creek 1 mile upstream from the confluence with Miners Creek.

The service area encompasses the entire agricultural area within the French Creek Basin, and some additional lands along the west side of the Scott River near the town of Etna. The service area is about 1/2 mile wide and 5 miles long, with the main axis and drainage running from south to north. Elevations of the agricultural area range from about 3,200 feet at the south to about 2,800 feet at the confluence of French Creek and Scott River.

A map of the French Creek stream system with the diversions and roads is presented as Figure 8, page 45.

Basis of Service

The rights on this creek system were determined by a court reference and set forth in Decree No. 14478, Siskiyou County Superior Court, dated July 1, 1958.

Water is distributed according to three schedules: North Fork French Creek with three priorities; Miners Creek with three; and the French Creek, Horse Range Creek, Paynes Lake Creek, and Duck Lake Creek system with seven.

These schedules are independent of each other with two exceptions. These involve the use of some Miners Creek users having the option to divert from French Creek when water is not available from Miners Creek. These rights are further limited by specifying maximum allowable flows at given points, regardless of the source of the water.

One peculiarity of this decree is that it included two water rights that have a specified amount but are subject to the exclusive control of the other owners of the ditch.

The French Creek watermaster service area was created on November 19, 1968, and service was started on July 1, 1969.

There are 27 water users in the service area with water rights totaling 30.59 cubic feet per second.

Water Supply

The water supply is derived from snowmelt runoff, springs and seepage, and occasional summer thundershowers.

The watershed of French Creek contains about 32 square miles of heavily forested, steep, mountainous terrain of the easterly slopes of the Salmon Mountains. It varies in elevation from about 7,200 feet along its west rim to about 3,200 feet at the foot of the slopes bordering French Creek Valley. Snowmelt runoff is normally sufficient to supply all demands until about the middle of July. The daily mean discharge of Duck Lake Creek, a tributary, is presented in Table 14, page 44.

Method of Distribution

Irrigation is accomplished primarily by wild flooding, with permanent pasture and alfalfa fields comprising the major

crops. Water is conveyed by ditches and laterals to the place of use.

1974 Distribution

Watermaster John A. Nolan, Water Resources Technician II, was on duty in the French Creek service area from July 1 until September 30.

Because watermaster service was initiated during the 1969 season, few data are available for a water supply comparison with past years. However, it is the opinion of most ranchers in the area that water-year conditions were definitely above average.

Upper third priority allotments were shut off on August 25 to satisfy the upper second priority rights. However, some third priority allotments lower downstream were available throughout the remainder of the season.

Those with downstream first, second, and third priority allotments can rely on a more dependable water supply than the upper users due to inflow from Paynes Lake, Horse Range, and North Fork French Creeks, all tributaries to French Creek below the upper users.

FRENCH CREEK WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

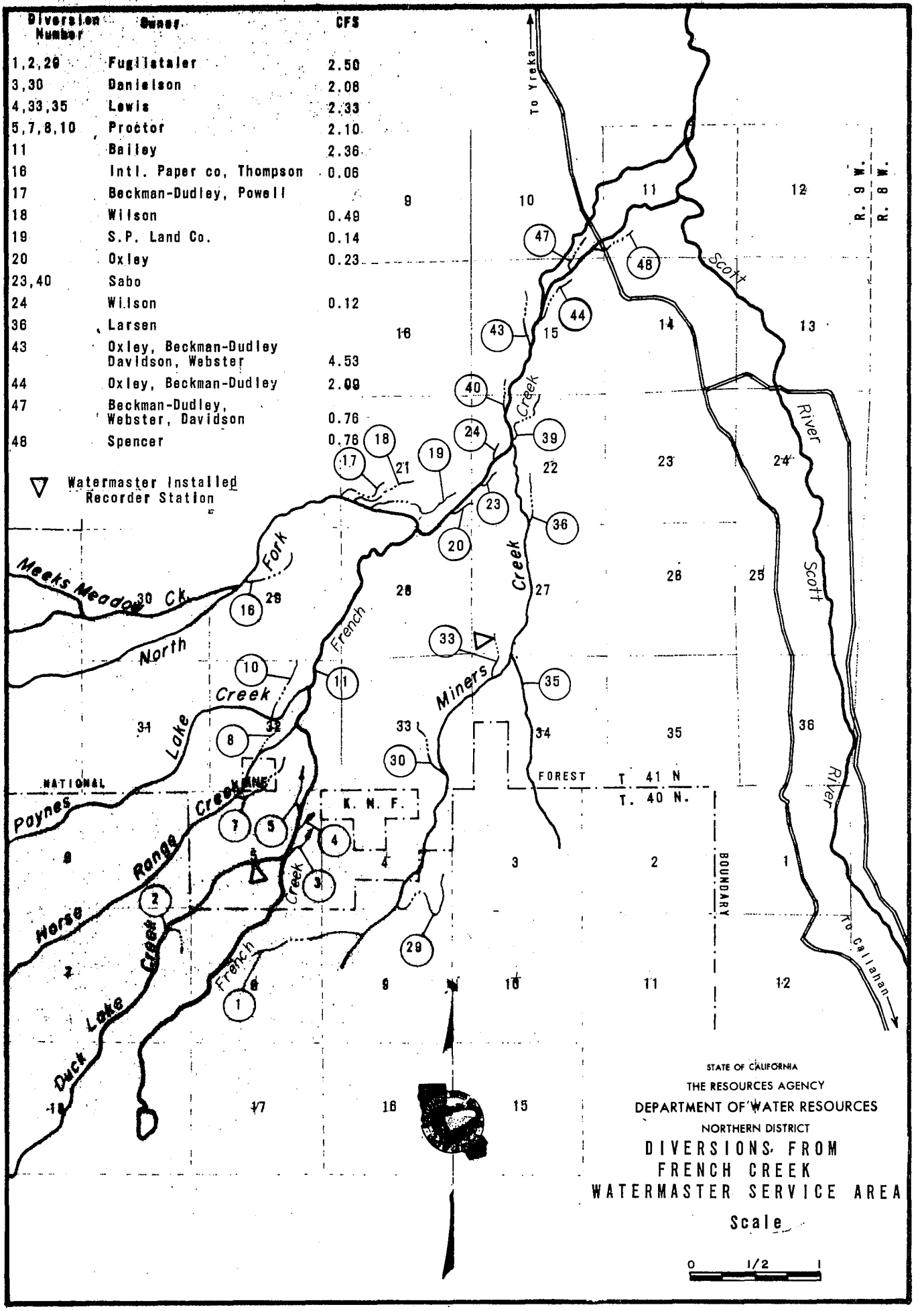
TABLE 14

DUCK LAKE CREEK TRIBUTARY TO FRENCH CREEK

Day	March	April	May	June	July	August	September	Day
1						19	0.9	1
2						19	0.9	2
3						18	0.9	3
4						16	0.9	4
5						16	0.9	5
6						14	0.9	6
7						14	0.9	7
8						13	0.9	8
9						12	0.9	9
10						11	0.9	10
11					45*	10	0.7	11
12					45	9.0	0.7	12
13					44	8.1	0.7	13
14					42	8.1	0.7	14
15					41	7.2	0.7	15
16					39	6.4	0.7	16
17					38	5.6	0.7	17
18					38	5.6	0.6	18
19					41	5.6	0.6	19
20					38	5.0	0.6	20
21					35	5.0	0.6	21
22					32	5.0	0.6	22
23					31	3.7	0.6	23
24					30	3.7	0.6	24
25					27	3.0	0.6	25
26					27	2.3	0.6	26
27					36	2.3	0.6	27
28					30	2.3	0.6	28
29					25	1.4	0.6	29
30					23	0.9	0.6	30
31					20	0.9		31
Mean					34.6	8.2	7.2	Mean
Runoff In Acre-Feet					1440	500	43	Runoff In Acre-Feet

* Beginning of Record

Figure 8


Diversion Number
Owner
CFS
1,2,29 Fuglistaler 2.50
3,30 Danielson 2.08
4,33,35 Lewis 2.33
5,7,8,10 Proctor 2.10
11 Bailey 2.36
16 Intl. Paper co, Thompson 0.06
17 Beckman-Dudley, Powell
18 Wilson 0.49
19 S.P. Land Co. 0.14
20 Oxley 0.23
23,40 Sabo
24 Wilson 0.12
36 Larsen
43 Oxley, Beckman-Dudley Davidson, Webster 4.53
44 Oxley, Beckman-Dudley 2.09
47 Beckman-Dudley, Webster, Davidson 0.76
48 Spencer 0.76
Watermaster Installed Recorder Station
To Yreka
Scott River
French Creek
Meeks Meadow Ck.
North Fork
Lake Creek
Paynes Creek
Horse Range Creek
Duck Lake Creek
Miners Creek
NATIONAL FOREST BOUNDARY
K. M. F.
T. 41 N.
T. 40 N.
R. 9 W.
R. 8 W.
To Callahan
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM FRENCH CREEK WATERMASTER SERVICE AREA
Scale
0 1/2 1

Hat Creek Watermaster Service Area

The Hat Creek service area is in the eastern part of Shasta County north of Lassen Volcanic National Park. The maps, Figures 9 through 9b, pages 49 through 51, show the Hat Creek service area and stream system, including locations of the diversions of the upper and lower user groups.

Hat Creek, which flows in a northerly direction through the area, is the only source of water supply in the service area. The place of use is Hat Creek Valley, which is approximately 20 miles long and 2 miles wide, extending northward from about 3 miles south of the town of Old Station to the confluence with Rising River. The irrigable lands, which consist primarily of volcanic ash, are interlaced with large outcroppings of volcanic rocks.

Basis of Service

Water from Hat Creek is distributed under provisions of court reference adjudications which resulted in Decree No. 5724, dated May 14, 1924, and Decree No. 7858, dated May 7, 1935, Shasta County Superior Court. Decree No. 5724 established irrigation and nonirrigation allotments for 18 periods of rotation between "upper" and "lower" user groups for the period of May 1 to October 28 annually. Decree No. 7858 established 3 allotments for continuous irrigation, May 1 through October 28, and allotments for the period October 28 to May 1 annually for all users. These latter rights are not normally supervised by the watermaster.

Watermaster service in the Hat Creek area has been provided in accordance with the decree since 1924. The existing service area was created on September 11, 1929.

Decree No. 5724 defines the allotments in two separate schedules: upper and lower users, requiring 10-day rotations beginning at 6 a.m., May 1, and terminating at 6 a.m., October 28. All water rights are of the same priority, with the surplus flows distributed according to the users that are on rotation. The upper users' water rights require 154.7 cubic feet per second and lower users require 166.5 cubic feet per second. The lower users require more because of additional channel loss. When the upper users are being served, the lower users receive a minimum flow for stock water.

Water Supply

The water supply of Hat Creek is derived from snowmelt runoff from Lassen Peak and from large springs. Snowmelt normally creates a high flow during May and June, but the substantial portion of the summer supply comes from large springs which decrease only slightly in output. Only after a series of dry years does the flow of these springs fall much below 75 percent of total allotments.

A record of the daily mean discharge of Hat Creek near the town of Hat Creek is presented in Table 15, page 48.

Method of Distribution

Most irrigation in the area is accomplished by wild flooding. Large heads of water are used to cover the land rapidly, thereby preventing excessive loss from percolation in the extremely porous soil. Diversion dams constructed across the creek serve to divert water into large ditches. The fields, many of which have checks and borders, are then flooded from the main diversion ditches or from laterals. A few domestic rights are met by pumping directly from Hat Creek.

1974 Distribution

Virgil Buechler, Water Resources Technician II, served as watermaster in the Hat Creek service area from May 1 until September 30.

The 1974 irrigation season was very successful due to an above-normal snowpack on Lassen Peak. The flows remained above the 165 cfs water right for the entire season and peaked in excess of 400 cfs in June. Only one 10-day rotation schedule was required for the lower users. This rotation was initiated September 8. As the season ended, the demand slacked off and the flows picked up as the weather cooled.

Special Occurrences

A metal screw-type headgate was installed on the Lonquist Diversion.

HAT CREEK WATERMASTER SERVICE AREA

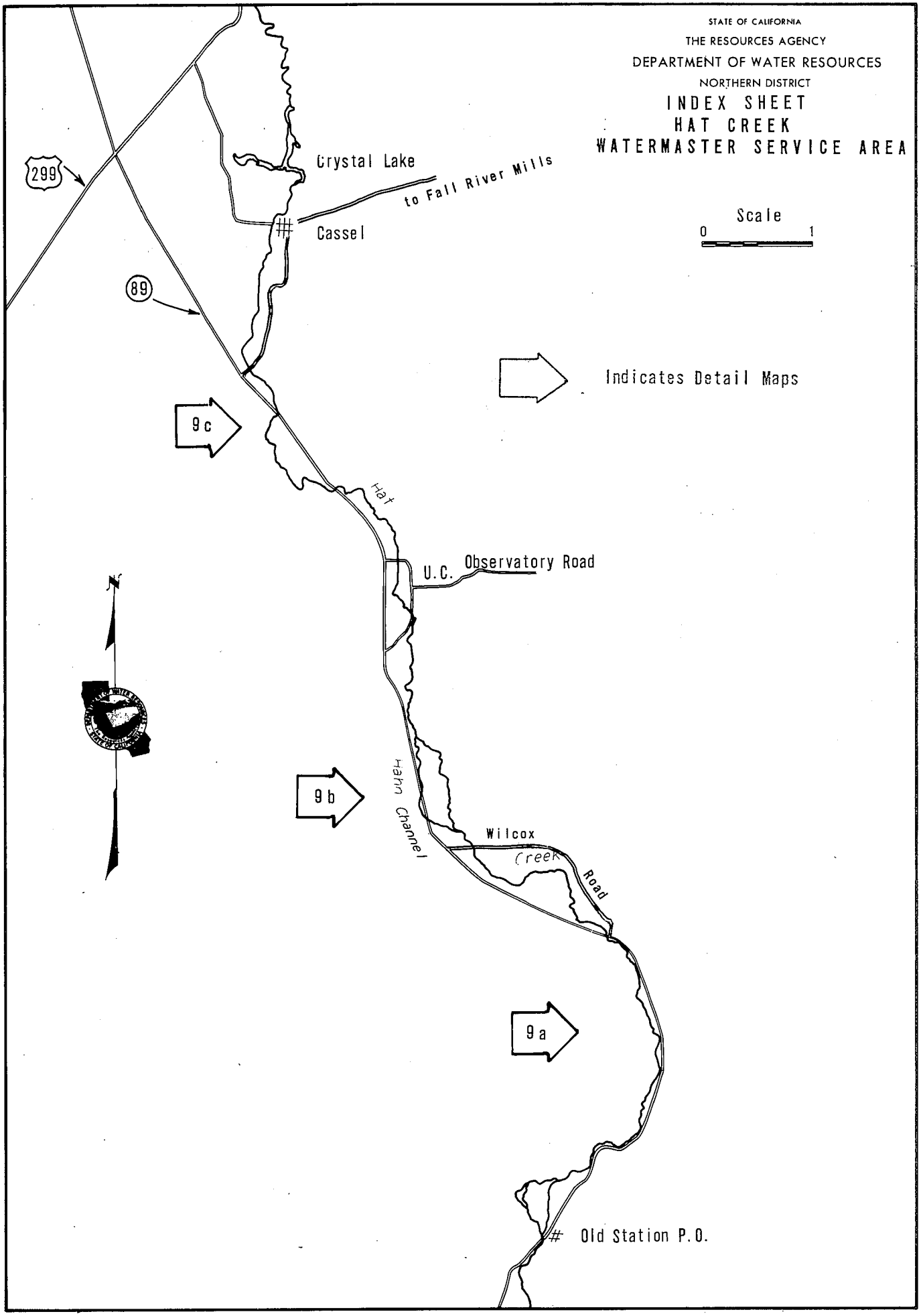
1974 Daily Mean Discharge in Cubic Feet Per Second

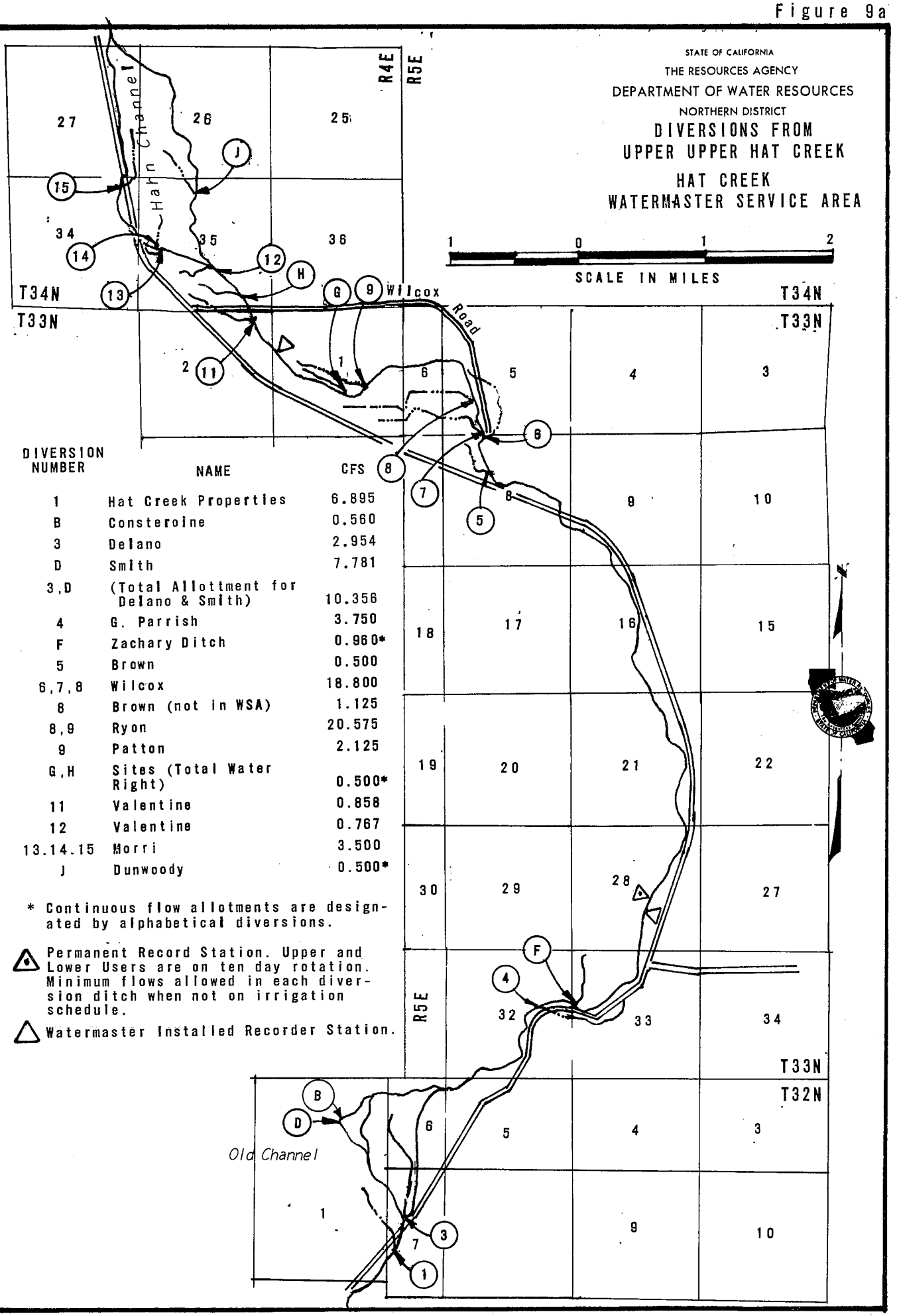
TABLE 15

HAT CREEK NEAR HAT CREEK

Day	March	April	May	June	July	August	September	Day
1	144	189	181	287	282	199	177	1
2	147	183	188	292	274	200	177	2
3	151	182	191	310	261	202	183	3
4	153	183	195	307	259	203	176	4
5	156	180	204	304	265	206	175	5
6	160	178	215	300	266	205	175	6
7	157	176	217	297	258	201	173	7
8	153	174	236	278	320	200	177	8
9	153	175	257	283	348	198	182	9
10	155	176	251	298	291	194	182	10
11	155	177	248	308	268	195	182	11
12	154	178	246	318	258	190	182	12
13	152	180	237	319	247	187	182	13
14	155	182	233	322	232	186	182	14
15	158	182	234	321	228	186	182	15
16	158	183	225	305	227	185	182	16
17	164	185	218	286	225	184	181	17
18	165	183	207	292	223	183	174	18
19	163	180	205	292	221	183	167	19
20	162	178	200	272	217	183	165	20
21	161	179	190	279	214	182	168	21
22	161	184	197	285	214	181	168	22
23	162	189	209	287	211	180	165	23
24	164	184	220	282	209	184	167	24
25	165	180	247	272	207	187	166	25
26	168	178	282	260	213	187	166	26
27	165	176	310	256	209	187	166	27
28	192	175	315	262	206	186	171	28
29	241	170	296	270	203	184	176	29
30	201	171	282	277	200	178	176	30
31	199		283		199	177		31
Mean	164	180	233	291	240	190	175	Mean
Runoff In Acre-Feet	10100	10690	14320	17300	14790	11670	10400	Runoff In Acre-Feet

Figure 9


STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
INDEX SHEET
HAT CREEK
WATERMASTER SERVICE AREA
Scale
0
1
299
89
Crystal Lake
to Fall River Mills
Cassel
Indicates Detail Maps
9c
9b
9a
Hat
U.C. Observatory Road
Hahn Channel
Wilcox
Creek
Road
Old Station P.O.



DIVERSION NUMBER	NAME	CFS
1	Hat Creek Properties	6.895
B	Consteroine	0.560
3	Delano	2.954
D	Smith	7.781
3,D	(Total Allottment for Delano & Smith)	10.356
4	G. Parrish	3.750
F	Zachary Ditch	0.960*
5	Brown	0.500
6,7,8	Wilcox	18.800
8	Brown (not in WSA)	1.125
8,9	Ryon	20.575
9	Patton	2.125
G,H	Sites (Total Water Right)	0.500*
11	Valentine	0.858
12	Valentine	0.767
13.14.15	Morri	3.500
J	Dunwoody	0.500*

* Continuous flow allotments are designated by alphabetical diversions.

△ Permanent Record Station. Upper and Lower Users are on ten day rotation. Minimum flows allowed in each diversion ditch when not on irrigation schedule.

△ Watermaster Installed Recorder Station.

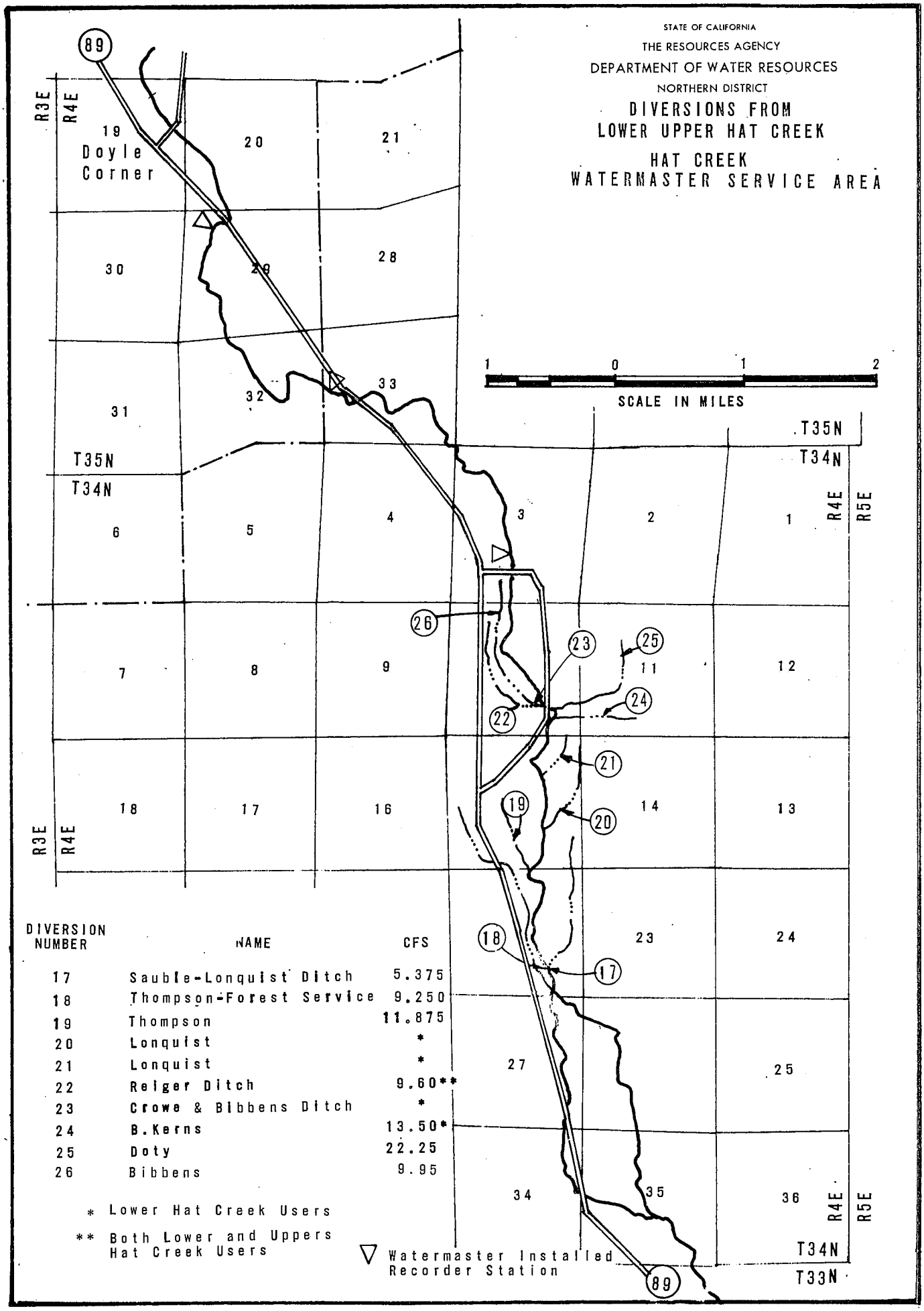
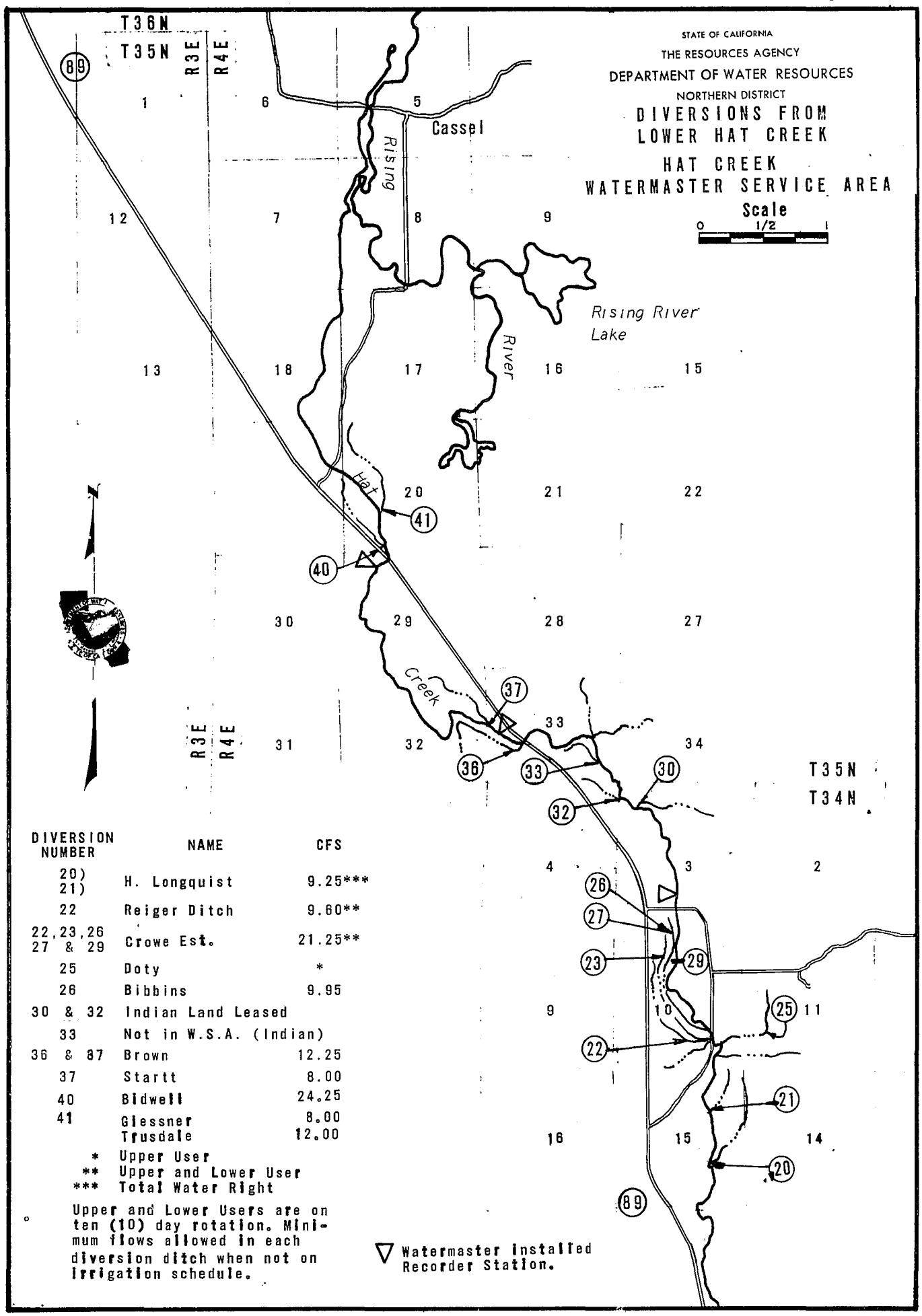

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
LOWER UPPER HAT CREEK
HAT CREEK
WATERMASTER SERVICE AREA
1 0 1 2
SCALE IN MILES
R3E
R4E
R5E
T35N
T34N
T33N
Doyle
Corner
DIVERSION NUMBER
NAME
CFS
17 Sauble-Lonquist Ditch 5.375
18 Thompson-Forest Service 9.250
19 Thompson 11.875
20 Lonquist *
21 Lonquist *
22 Reiger Ditch 9.60**
23 Crowe & Bibbens Ditch *
24 B.Kerns 13.50*
25 Doty 22.25
26 Bibbens 9.95
* Lower Hat Creek Users
** Both Lower and Uppers Hat Creek Users
Watermaster Installed Recorder Station

Figure 9c



DIVERSION NUMBER	NAME	CFS
20) 21)	H. Longquist	9.25***
22	Reiger Ditch	9.60**
22,23,26 27 & 29	Crowe Est.	21.25**
25	Doty	*
26	Bibbins	9.95
30 & 32	Indian Land Leased	
33	Not in W.S.A. (Indian)	
36 & 87	Brown	12.25
37	Startt	8.00
40	Bidwell	24.25
41	Giessner	8.00
	Trusdale	12.00

* Upper User
** Upper and Lower User
*** Total Water Right

Upper and Lower Users are on ten (10) day rotation. Minimum flows allowed in each diversion ditch when not on irrigation schedule.

▽ Watermaster Installed Recorder Station.

Indian Creek Watermaster Service Area

The Indian Creek service area is located in the north central part of Plumas County in the vicinity of the town of Greenville.

The major sources of supply in the service area are Indian Creek and two major tributaries, Wolf Creek and Lights Creek. Indian Creek and its minor tributaries rise in the mountains east of the service area. It then flows through Genesee Valley and through Indian Valley past the towns of Taylorsville and Crescent Mills to its confluence with the North Fork Feather River. Indian Creek is joined on the north by Lights Creek in the southeast part of Indian Valley and by Wolf Creek in the northwest part of the valley. The major place of use is in Indian Valley, an irregular-shaped area of about 20 square miles. The average elevation is about 3,500 feet.

Maps of the whole area and of each major stream system within the Indian Creek service area are presented as Figures 10 through 10c, pages 55 through 58.

Basis of Service

The Indian Creek watermaster service area was created on Feburary 19, 1951, to include, with certain exceptions, the water rights set forth in Decree No. 4185, entered December 19, 1950, by the Superior Court of Plumas County, and the rights under Permit 7665 issued in approval of Application 12642 subsequent to entry of the decree. The statutory proceeding leading to the decree was entitled "In the Matter of the Determination of the Rights of the Various Claimants to the Water of Indian Creek Stream System in Plumas County, California".

The service area has been amended twice. Watermaster service has been provided during each irrigation season since the service area was created, and annual reports have been prepared to show the work accomplished.

There are currently 45 water right owners in the service area with total allotments amounting to 97.015 cubic feet per second.

The Indian Creek decree establishes three priority classes for each of the major stream systems within the service area.

Water Supply

The water supply in the Indian Creek service area is derived primarily from snowmelt runoff with springs and seepage maintaining some late summer flows. The flow of Wolf Creek is normally sufficient to supply all allotments until June 1. Indian and Lights Creeks, with the exception of some tributaries, have sufficient flow to supply all allotments until July 1. After these dates, the flow steadily decreases throughout the season until by the end of August only a small portion of allotments is available.

A record of the daily mean discharge of Indian Creek near Taylorsville, where Indian Creek enters the valley, is presented in Table 16, page 54.

Method of Distribution

The basic method of irrigation in Indian Valley is wild flooding. Small diversion dams are constructed in the stream channels to divert water into distribution ditches for conveyance to the fields. Small check dams, located throughout the fields in swales, help to spread the water over the ground. There is a limited amount of check and border irrigation in the valley. A few sprinkler systems are also in use.

1974 Distribution

Watermaster service began in the Indian Creek service area on April 8 and continued until September 30 with Harvey M. Jorgensen, Water Resources Engineering Associate, as watermaster.

The available supply in the service area was above average during the season.

Wolf Creek. The available water supply of Wolf Creek was sufficient to satisfy all allotments (three priorities) until August 15. The streamflow gradually decreased until only first priority allotments were being served on September 1.

Lights Creek and Tributaries. The available water supply of Lights Creek was sufficient to satisfy all allotments (three priorities) until August 20, when the surface flow at the county road stopped. The available water supply of Cooks Creek satisfied all allotments until July 30.

Indian Creek. The available water supply of Indian Creek was sufficient to satisfy all allotments (three priorities) until August 5. Sufficient underflow occurred below the Mill Race Diversion Dam to meet allotments of downstream users.

Special Occurrences

Orifice plate control devices were installed in Diversion 54 to facilitate the release of water from Antelope Lake past these diversion points.

Diversion 70 on Wolf Creek was relocated 1,000 feet upstream.

INDIAN CREEK WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 16

INDIAN CREEK NEAR TAYLORSVILLE

Day	March	April	May	June	July	August	September	Day
1								1
2								2
3								3
4								4
5								5
6								6
7								7
8								8
9								9
10								10
11								11
12								12
13								13
14								14
15			NO RECORD AVAILABLE FOR 1974 SEASON					15
16								16
17								17
18								18
19								19
20								20
21								21
22								22
23								23
24								24
25								25
26								26
27								27
28								28
29								29
30								30
31								31
Mean								Mean
Runoff In Acre-Feet								Runoff In Acre-Feet

FIGURE 10

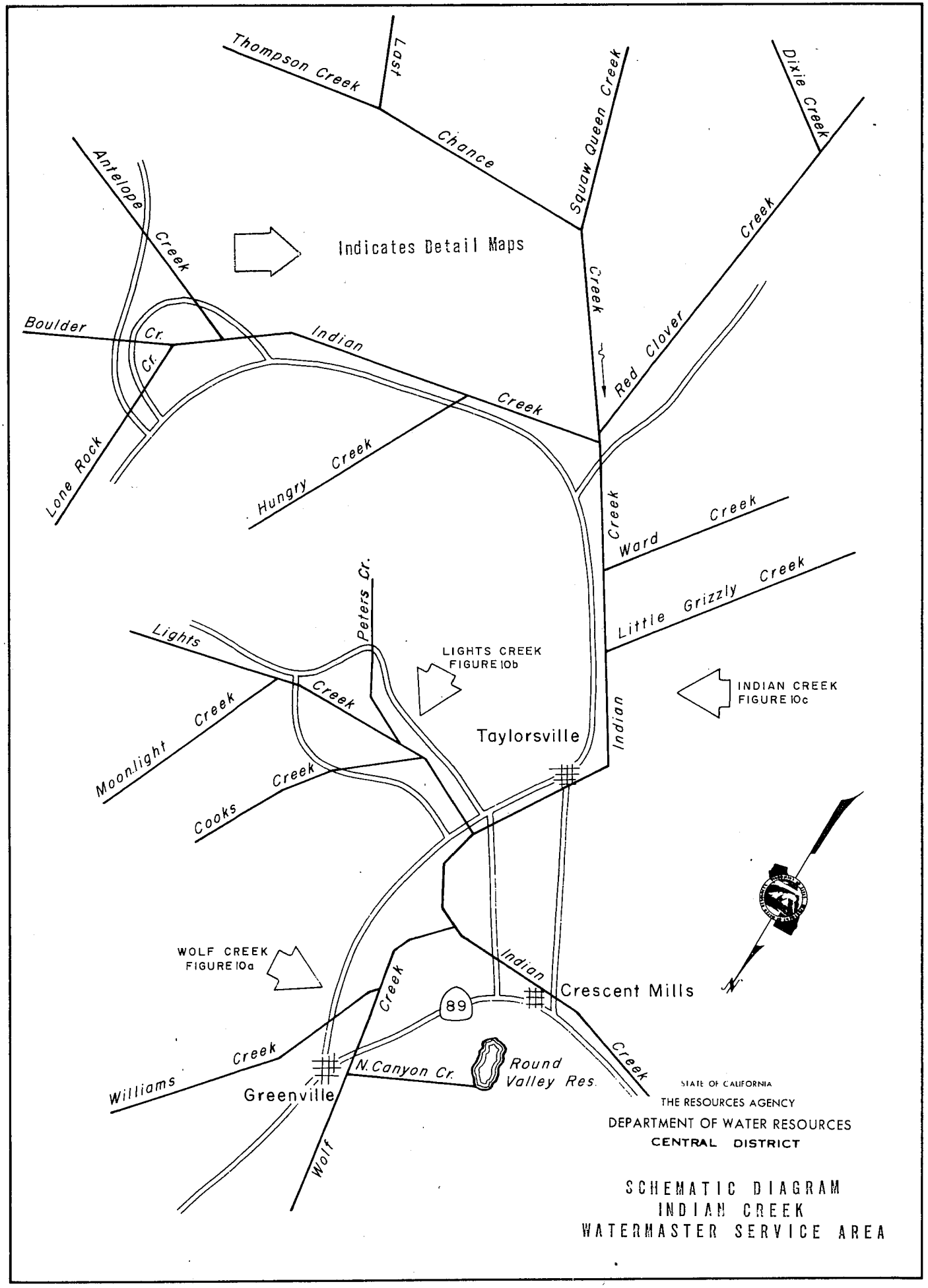
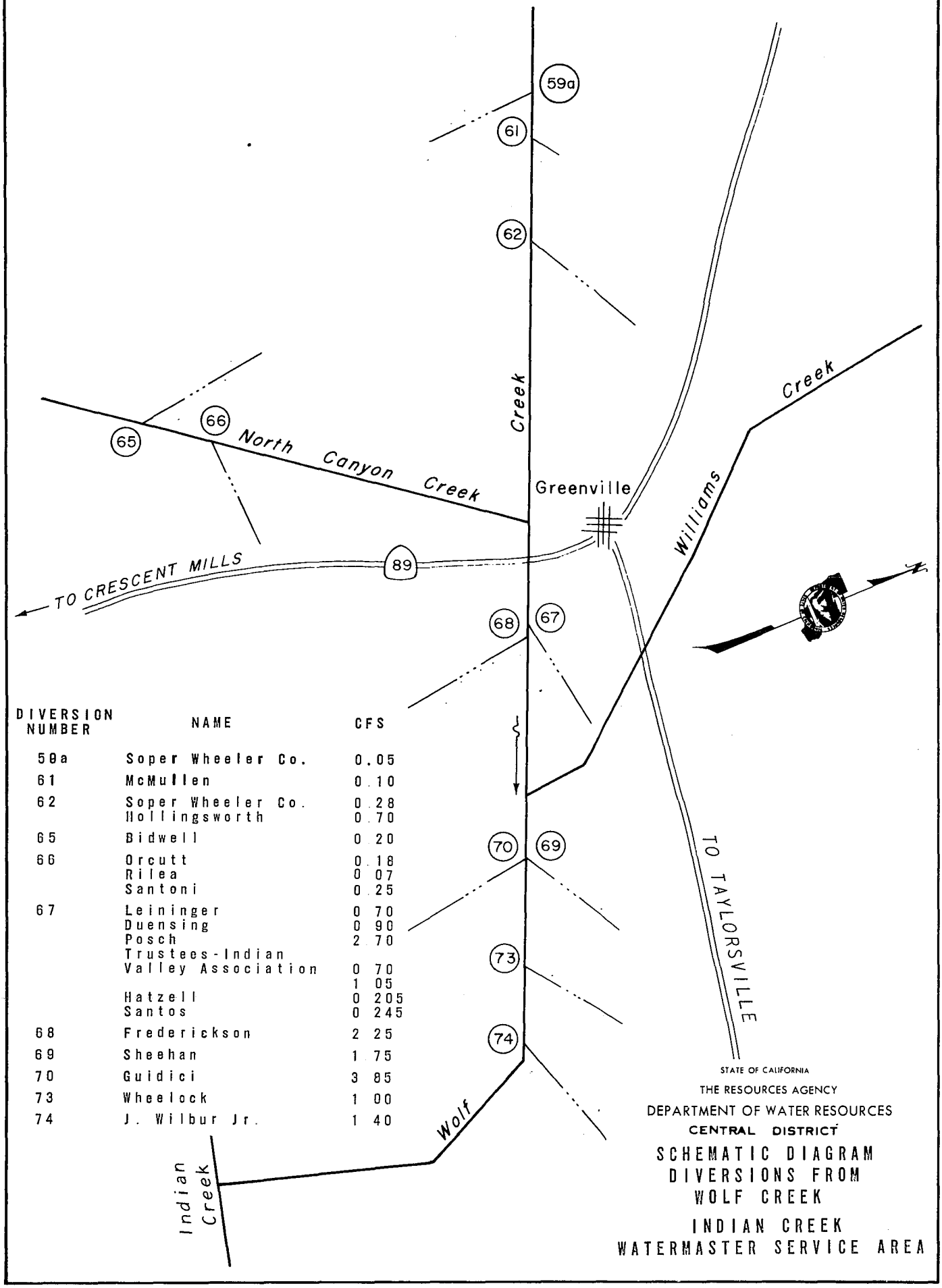

Thompson Creek
Last Chance Creek
Squaw Queen Creek
Dixie Creek
Antelope Creek
Indicates Detail Maps
Boulder Cr.
Cr.
Indian Creek
Red Clover Creek
Lone Rock
Hungry Creek
Ward Creek
Peters Cr.
Lights Creek
LIGHTS CREEK FIGURE 10b
INDIAN CREEK FIGURE 10c
Little Grizzly Creek
Moonlight Creek
Cooks Creek
Taylorsville
Indian Creek
WOLF CREEK FIGURE 10a
89
Crescent Mills
Williams Creek
Greenville
N. Canyon Cr.
Round Valley Res.
Wolf Creek
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
CENTRAL DISTRICT
SCHEMATIC DIAGRAM
INDIAN CREEK
WATERMASTER SERVICE AREA

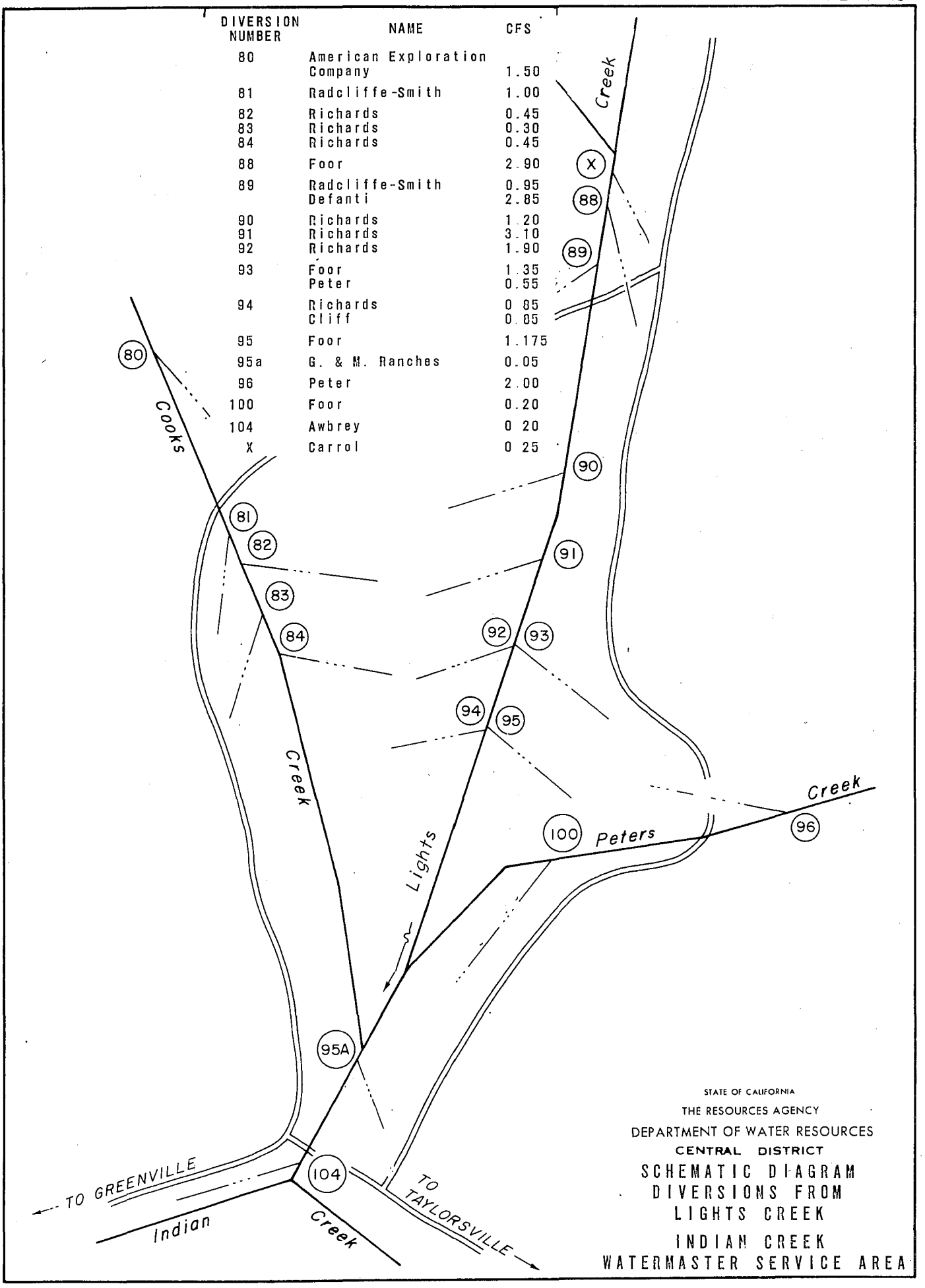
FIGURE 10a

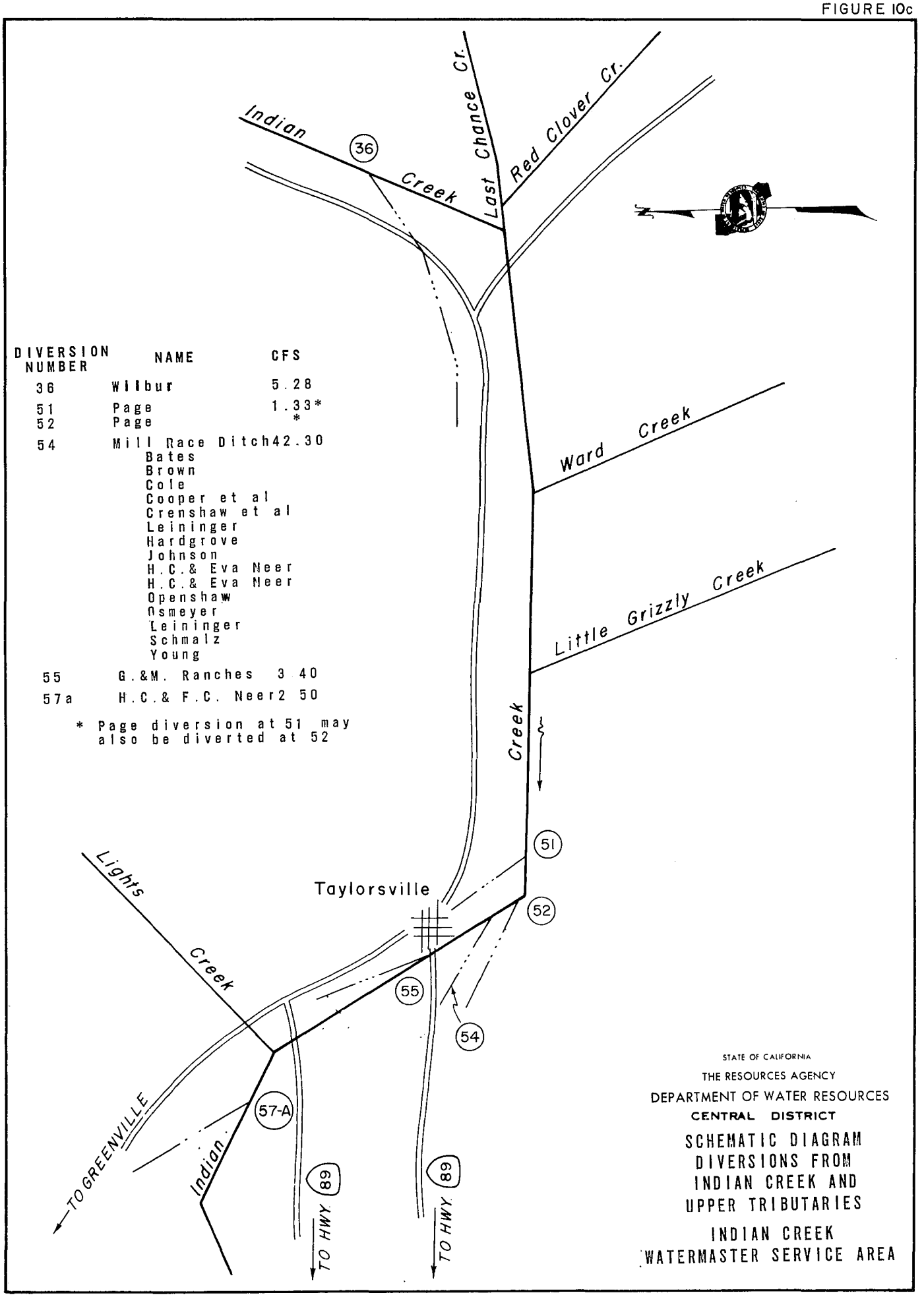


DIVERSION NUMBER	NAME	CFS
59a	Soper Wheeler Co.	0.05
61	McMullen	0.10
62	Soper Wheeler Co.	0.28
	Hollingsworth	0.70
65	Bidwell	0.20
66	Orcutt	0.18
	Rilea	0.07
	Santoni	0.25
67	Leininger	0.70
	Duensing	0.90
	Posch	2.70
	Trustees-Indian Valley Association	0.70
		1.05
	Hatzell	0.205
	Santos	0.245
68	Frederickson	2.25
69	Sheehan	1.75
70	Guidici	3.85
73	Wheelock	1.00
74	J. Wilbur Jr.	1.40

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
CENTRAL DISTRICT

SCHEMATIC DIAGRAM
DIVERSIONS FROM
WOLF CREEK
INDIAN CREEK
WATERMASTER SERVICE AREA


DIVERSION NUMBER | NAME | CFS
80 | American Exploration Company | 1.50
81 | Radcliffe-Smith | 1.00
82 | Richards | 0.45
83 | Richards | 0.30
84 | Richards | 0.45
88 | Foor | 2.90
89 | Radcliffe-Smith | 0.95
Defanti | 2.85
90 | Richards | 1.20
91 | Richards | 3.10
92 | Richards | 1.90
93 | Foor | 1.35
Peter | 0.55
94 | Richards | 0 85
Cliff | 0.85
95 | Foor | 1.175
95a | G. & M. Ranches | 0.05
96 | Peter | 2.00
100 | Foor | 0.20
104 | Awbrey | 0 20
X | Carrol | 0 25
Creek
X
88
89
80
Cooks
90
81
82
91
83
84
92
93
94
95
Creek
Lights
Creek
100
Peters
96
95A
104
TO GREENVILLE
Indian
Creek
TO TAYLORSVILLE
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
CENTRAL DISTRICT
SCHEMATIC DIAGRAM
DIVERSIONS FROM
LIGHTS CREEK
INDIAN CREEK
WATERMASTER SERVICE AREA



DIVERSION NUMBER	NAME	CFS
36	Wilbur	5.28
51	Page	1.33*
52	Page	*
54	Mill Race Ditch	42.30
	Bates	
	Brown	
	Cole	
	Cooper et al	
	Crenshaw et al	
	Leininger	
	Hardgrove	
	Johnson	
	H.C.& Eva Neer	
	H.C.& Eva Neer	
	Openshaw	
	Osmeyer	
	Leininger	
	Schmalz	
	Young	
55	G.&M. Ranches	3.40
57a	H.C.& F.C. Neer	2.50

* Page diversion at 51 may also be diverted at 52

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
CENTRAL DISTRICT

SCHEMATIC DIAGRAM
DIVERSIONS FROM
INDIAN CREEK AND
UPPER TRIBUTARIES

INDIAN CREEK
WATERMASTER SERVICE AREA

Middle Fork Feather River Watermaster Service Area

The Middle Fork Feather River service area is located in and around Sierra Valley, a plateau area on the west slope of the Sierra Nevada Mountains in the eastern portion of Sierra and Plumas Counties.

Major sources of supply for this service area are the Middle Fork Feather River and its tributaries in the Sierra Valley. The area is comprised of five major stream groups. These groups, starting in the northeast corner of the valley and proceeding in a clockwise direction, are Little Last Chance Creek, Smithneck Creek, Webber Creek and tributaries, West Side Canal, and Fletcher Creek and Spring Channels. The Middle Fork Feather River flows generally north for approximately 15 miles through Sierra Valley. It then flows out of the valley in a westerly direction near Beckwourth. The major place of use is in Sierra Valley, which is about 15 miles long and 10 miles wide. The average elevation of the valley floor is 4,900 feet.

Maps of the Middle Fork Feather River service area are presented as Figures 11 through 11K, pages 62 through 73.

Basis of Service

The Middle Fork Feather River watermaster service area was created on March 29, 1940, to include, with the exception of certain tributaries and springs, all water rights set forth in Decree No. 3095 entered in the Middle Fork Feather River statutory adjudication proceeding on January 19, 1940, Superior Court, Plumas County.

The decree establishes the number of priority classes for each of the major stream systems within the Middle Fork Feather River service area as follows: Little Last Chance Creek - eight; Smithneck Creek - five; West Side Canal Group - five; Fletcher Creek and Spring Channels - three; Webber Creek and tributaries - six; and Sierra Valley Water Company - one.

The service area has been amended three times to include and exclude certain water rights. Watermaster service has been provided during each irrigation season since the service area was created and annual reports have been prepared to show the work accomplished.

There are, currently, 100 water right owners in the service area with total allotments amounting to 371.565 cubic feet per second.

Water Supply

The major water supply in the Middle Fork Feather River service area is derived from snowmelt runoff, with minor flow from springs and from supplemental stored and foreign water.

Natural flows of Little Last Chance Creek are supplemented by reservoir storage provided by Frenchman Dam which was constructed by the Department of Water Resources in 1961. Stored water is released and used as needed under the provisions of an annual contract.

Smithneck Creek flow is normally sufficient to supply all allotments until about the middle of May. It then decreases until about June 1 and only first and second priority allotments are then available for the remainder of the season.

The natural flow of Webber Creek is normally sufficient to supply all allotments until the middle of May. At that time up to 60 cubic feet per second is diverted from the Little Truckee River to supplement the flow. This imported water is diverted through the Little Truckee Ditch into Onion Creek and then

into Webber Creek, via Cold Stream, for use of shareholders in the Sierra Valley Water Company. This supplemental supply decreases rapidly during July, producing only a small quantity during the latter part of the season.

The West Side Canal streams normally supply all allotments until the first part of June. The flow then gradually declines throughout the season.

The flow of Fletcher Creek and Spring Channels normally supplies all allotments until July 1. The flow then gradually declines for the remainder of the season.

Records of the daily mean discharge of Little Truckee Ditch and the Middle Fork Feather River near Portola are presented in Tables 17 and 18, page 61.

Method of Distribution

Wild flooding is employed by the majority of the water users to irrigate their fields. Small diversion dams are placed in the stream channels to divert the water into individual distribution systems. Check dams are constructed in the swales to implement flooding once the water reaches the fields.

1974 Distribution

Watermaster service began April 1 in the Middle Fork Feather River service area and continued until September 30. Joe Nessler, Water Resources Engineering Associate, was Supervising Watermaster during this period. Conrad Lahr, Water Resources Technician II, assisted as Deputy Watermaster. The available supply in the service area was about average during the season.

Little Last Chance Creek. Frenchman Dam and Reservoir began its thirteenth season of operation. An annual contract concerning storage, distribution, and sale of water was again negotiated with the Last Chance Creek Water District. Delivery and distribution of water was made in accordance with the provisions of the contract and the instructions of the District's Board of Directors.

Smithneck Creek. The available water supply was sufficient to satisfy all allotments (five priorities) until about May 20. A 2-week rotation schedule was started May 18 and continued for 8 weeks until only stockwater was available.

Webber Creek and Tributaries. The natural flow of Webber Creek was sufficient to supply all allotments (six priorities) until about the first of June. It then decreased gradually until first and second priority allotments were being served at the end of the season. Importation of water from the Little Truckee River began on May 30, supplementing the natural flow of Webber Creek to help satisfy all allotments of the Sierra Valley Water Company shareholders (one priority). A total of 2,960 acre-feet of water was diverted through the Little Truckee Ditch up to September 30. This diversion provided sufficient water until about August 10. A lighter-than-normal demand still exists in this stream system due to damaged diversion facilities.

West Side Canal Group. The available water supply in the West Side Canal Group, consisting of Hamlin, Miller, and Turner Creeks, was sufficient to satisfy all allotments (five priorities) until the middle of July.

Fletcher Creek and Spring Channels. Ample water was available to satisfy all allotments until July 1. A rotation schedule was set up on Fletcher Creek and continued for the remainder of the season.

MIDDLE FORK FEATHER RIVER WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 17

LITTLE TRUCKEE DITCH AT HEAD

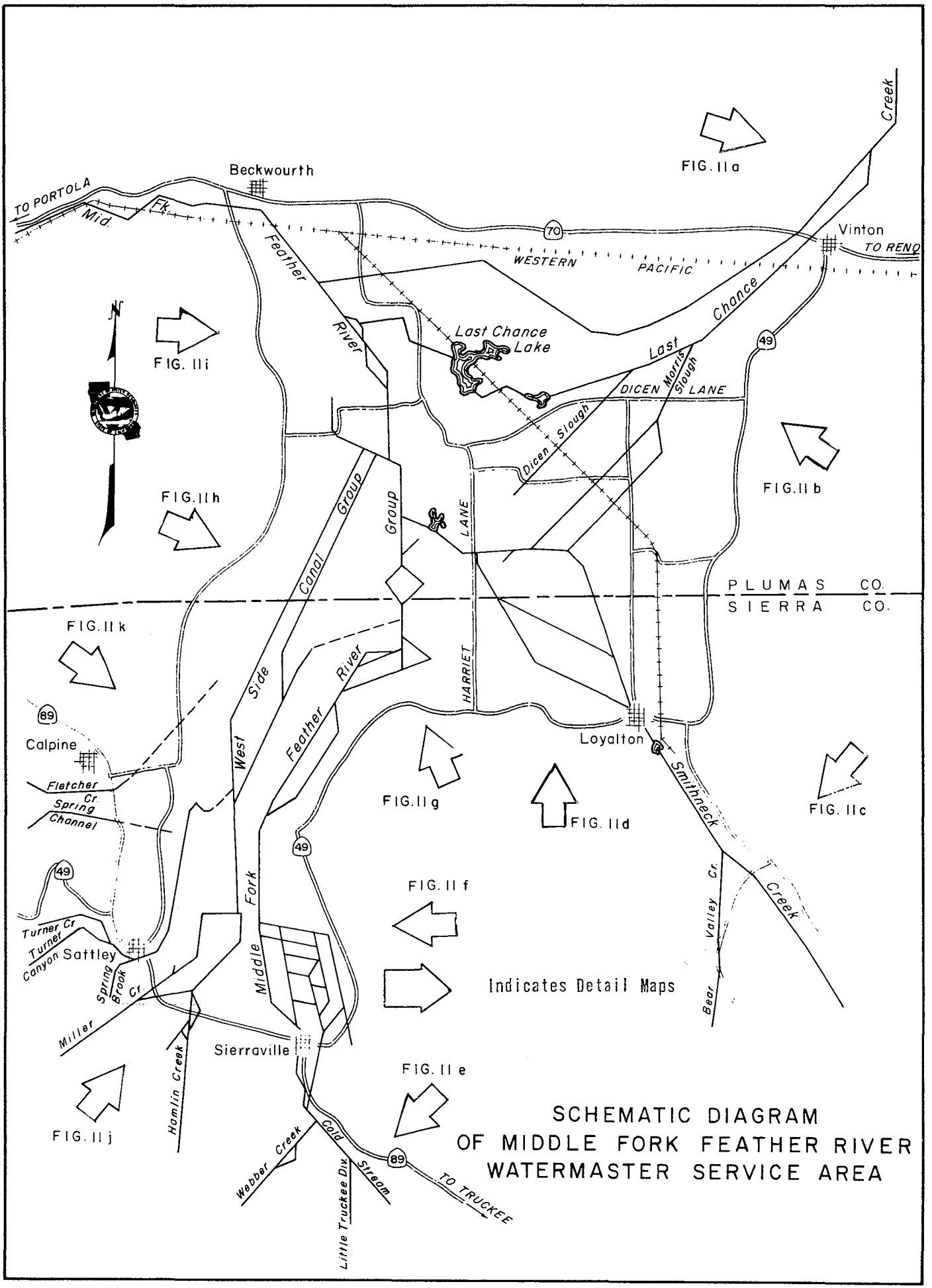
Day	March	April	May	June	July	August	September	Day
1				1.2	12	28	4.9	1
2				1.2	14	27	4.9	2
3				1.2	13	27	4.9	3
4				1.2	13	27	4.6	4
5				1.2	15	27	4.4	5
6				9.5	20	27	4.2	6
7				16	18	27	4.2	7
8				15	23	25	4.2	8
9				15	35	24	5.1	9
10				15	32	20	6.5	10
11				16	28	18	5.1	11
12				16	26	16	1.9	12
13				16	24	13	0.9	13
14				16	21	12	0.8	14
15				16	18	10	0.7	15
16				15	17	9.8	0.7	16
17				14	16	8.8	2.0	17
18				13	14	8.2	1.7	18
19				13	13	7.6	0.9	19
20				12	13	7.0	0.9	20
21				12	12	7.0	0.6	21
22				12	18	6.7	0.6	22
23				12	27	5.9	1.4	23
24				11	27	5.9	2.0	24
25				10	27	5.4	2.0	25
26				9.8	27	5.4	2.0	26
27				9.5	27	5.4	2.0	27
28				9.5	26	5.4	2.2	28
29				9.8	26	5.1	2.2	29
30			0.2*	9.8	24	5.1	2.2	30
31			1.2		23	5.1		31
Mean			1.7	11.0	20.9	13.9	2.7	Mean
Runoff In Acre-Feet			3	652	1287	856	160	Runoff In Acre-Feet

* Beginning of Flow

TABLE 18

MIDDLE FORK FEATHER RIVER NEAR PORTOLA

Day	March	April	May	June	July	August	September	Day
1	469	2450	415	111	58	42	28	1
2	1040	2010	396	117	57	41	28	2
3	2040	1750	380	121	57	41	27	3
4	1630	1360	375	128	57	43	25	4
5	1120	1070	361	134	56	49	24	5
6	977	900	316	130	54	46	30	6
7	1070	792	241	127	52	46	89	7
8	1160	716	268	247	59	43	87	8
9	953	675	275	133	62	41	87	9
10	753	670	283	135	59	39	64	10
11	653	659	293	140	57	40	26	11
12	610	623	314	141	55	41	26	12
13	590	586	337	143	54	42	28	13
14	580	548	352	130	55	42	27	14
15	550	521	363	127	67	41	26	15
16	548	512	362	128	88	40	26	16
17	558	475	319	126	93	40	26	17
18	571	502	278	133	90	41	25	18
19	572	541	262	145	84	44	26	19
20	552	591	259	132	77	51	30	20
21	509	580	259	120	71	53	30	21
22	486	493	254	110	66	49	30	22
23	468	454	237	108	64	45	31	23
24	450	473	193	101	63	43	31	24
25	441	510	146	87	60	42	31	25
26	440	518	132	78	56	41	32	26
27	449	498	116	72	52	39	32	27
28	530	462	103	68	49	36	33	28
29	653	448	97	63	47	33	34	29
30	1210	439	93	60	46	32	33	30
31	3170		98		44	30		31
Mean	832	760	263	119	61.6	41.8	35.7	Mean
Runoff In Acre-Feet	51177	45275	16219	7131	3786	2571	2126	Runoff In Acre-Feet



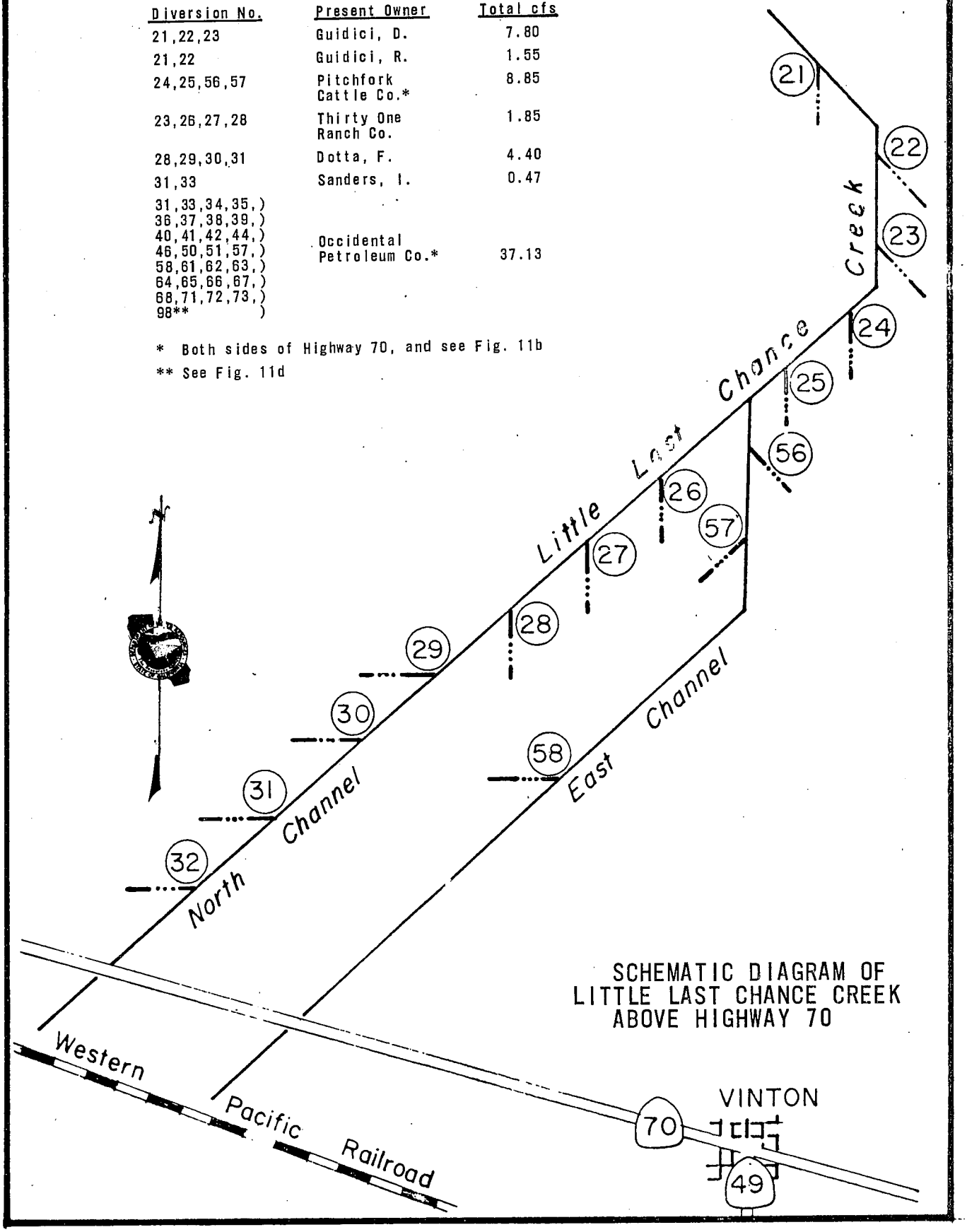
SCHEMATIC DIAGRAM
OF MIDDLE FORK FEATHER RIVER
WATERMASTER SERVICE AREA

ALLOCATIONS FROM LITTLE LAST CHANCE CREEK
ABOVE HIGHWAY 70

Diversion No.	Present Owner	Total cfs
21,22,23	Guidici, D.	7.80
21,22	Guidici, R.	1.55
24,25,56,57	Pitchfork Cattle Co.*	8.85
23,26,27,28	Thirty One Ranch Co.	1.85
28,29,30,31	Dotta, F.	4.40
31,33	Sanders, I.	0.47
31,33,34,35,) 36,37,38,39,) 40,41,42,44,) 46,50,51,57,) 58,61,62,63,) 64,65,66,67,) 68,71,72,73,) 98**)	Occidental Petroleum Co.*	37.13

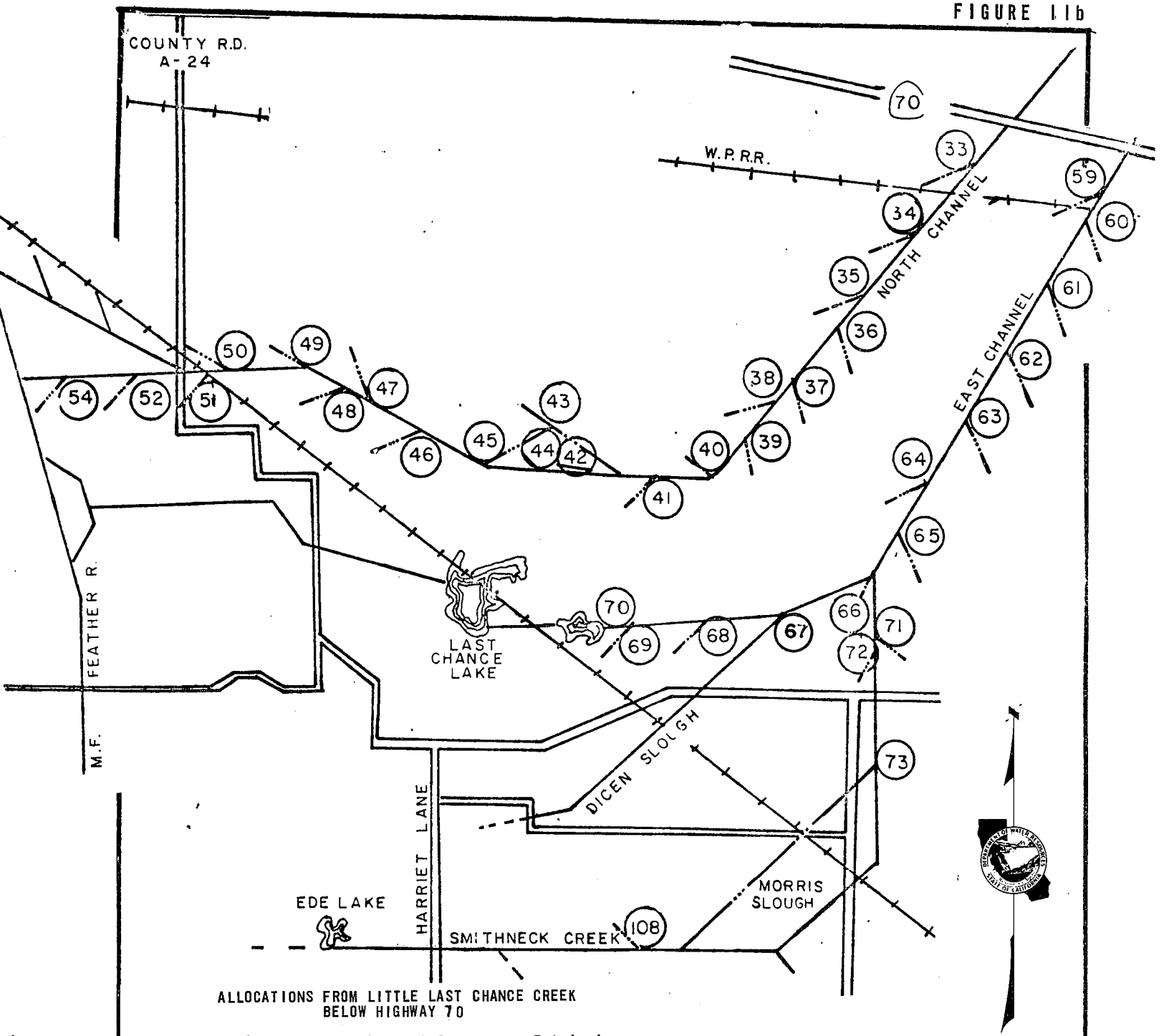
* Both sides of Highway 70, and see Fig. 11b

** See Fig. 11d



SCHEMATIC DIAGRAM OF
LITTLE LAST CHANCE CREEK
ABOVE HIGHWAY 70

FIGURE 11b



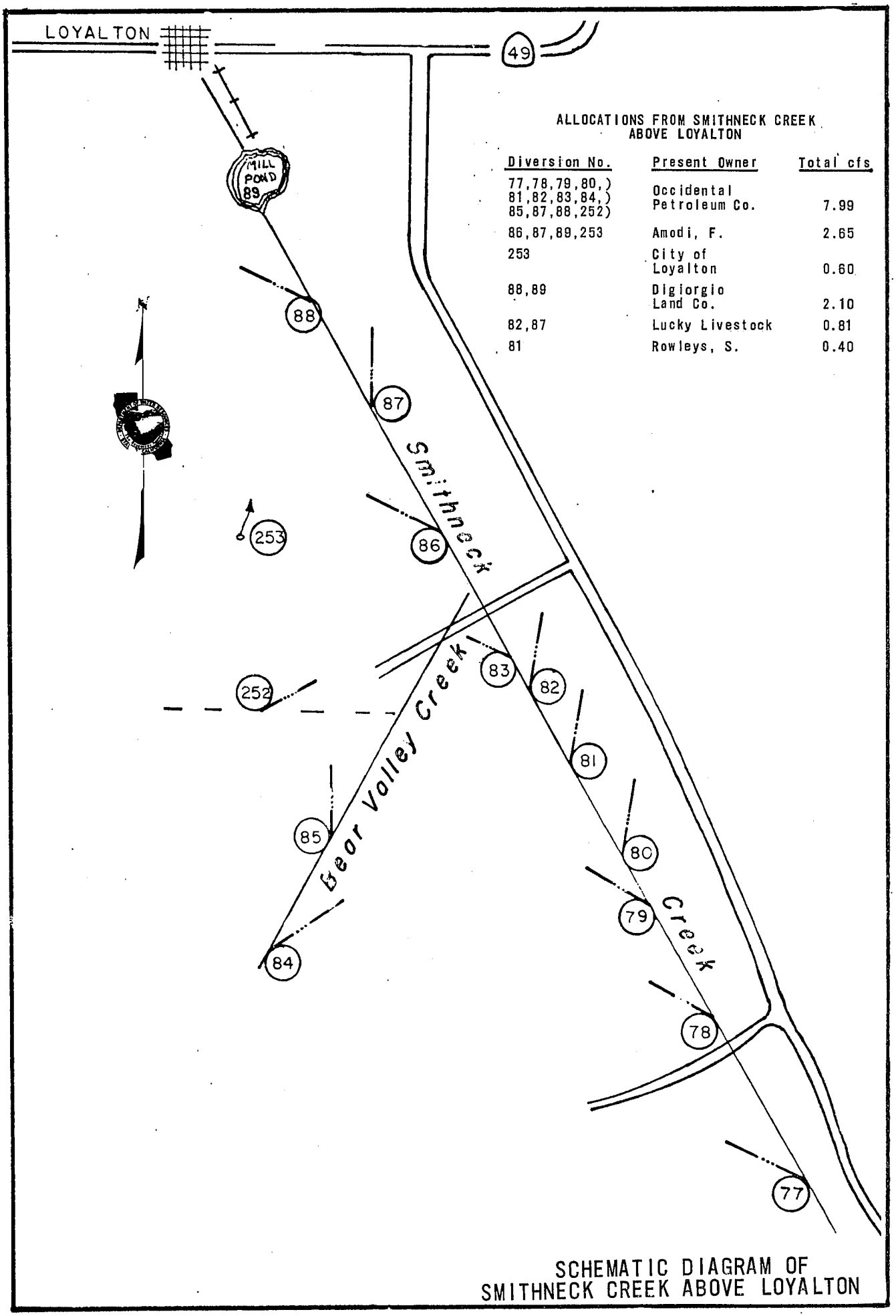
ALLOCATIONS FROM LITTLE LAST CHANCE CREEK
BELOW HIGHWAY 70

Diversion No.	Present Owner	Total cfs
31*,32*,57*,) 58*,59,60)	Ramelli, T.	3.30
57,58,59,60	Ayoob, G.	4.05
43,44,45,67, 68,69,72,79	Roberti, E.	9.14
70	Rammelli, M.	0.55
70	Wiley, J.	0.20
70	Carmicheal, F.	0.10
47,48,49	Bonta, S.	4.45
52,53	Maddalena, L.	1.20
54,55	Noble, P.	0.45
67,72	Humphrey, M.	1.68
67,108	Hage, J.	0.20

* See Fig. 11a for location of diversions 33-42, 46, 50, 51, 61-68, 71, 72, 73, 98 (Occidental Petroleum)

SCHEMATIC DIAGRAM OF
LITTLE LAST CHANCE CREEK
BELOW HIGHWAY 70

FIGURE IIc

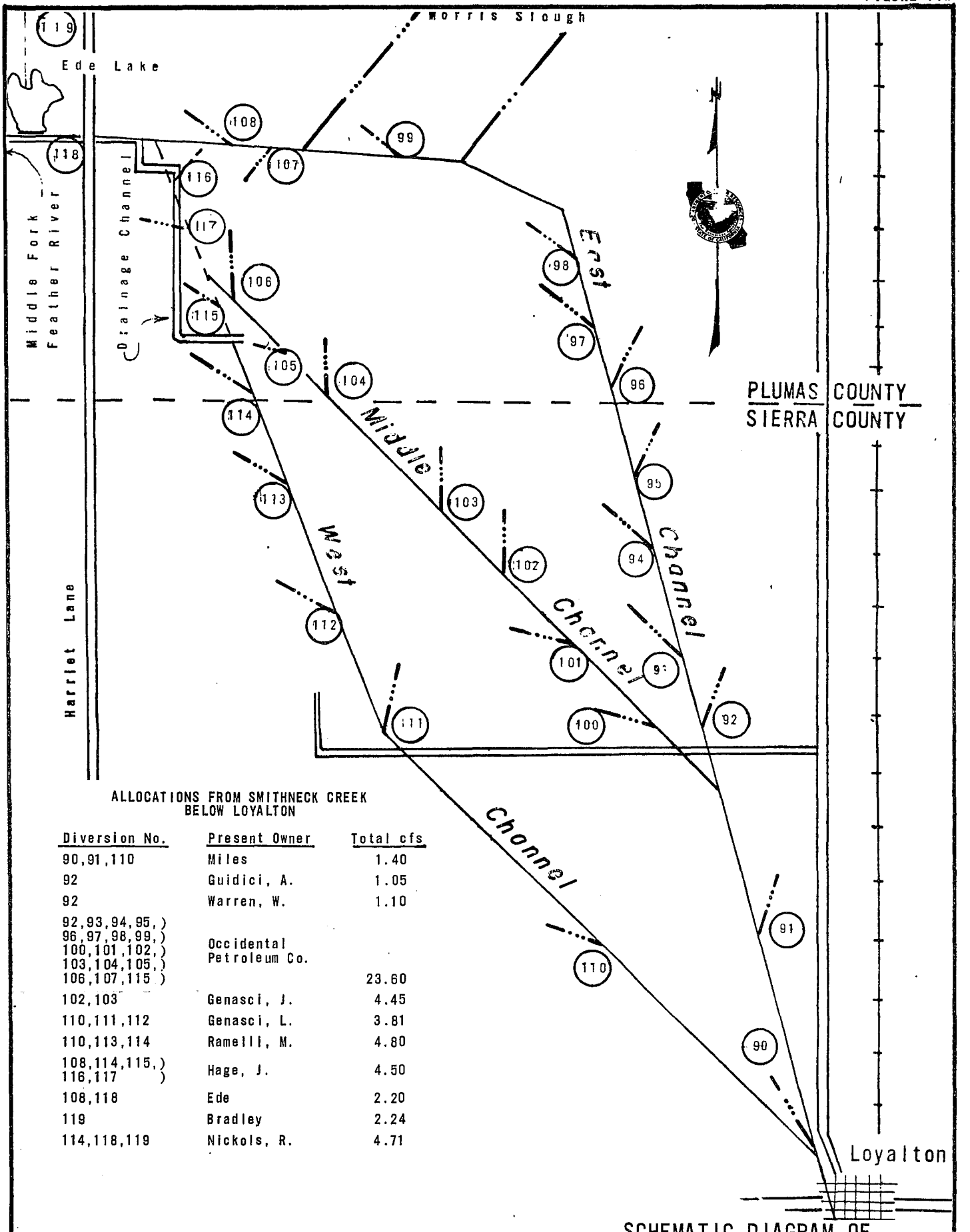


ALLOCATIONS FROM SMITHNECK CREEK ABOVE LOYALTON

Diversion No.	Present Owner	Total cfs
77,78,79,80,) 81,82,83,84,) 85,87,88,252)	Occidental Petroleum Co.	7.99
86,87,89,253	Amodi, F.	2.65
253	City of Loyalton	0.60
88,89	Digiorgio Land Co.	2.10
82,87	Lucky Livestock	0.81
81	Rowleys, S.	0.40

SCHEMATIC DIAGRAM OF SMITHNECK CREEK ABOVE LOYALTON

FIGURE IId



ALLOCATIONS FROM SMITHNECK CREEK BELOW LOYALTON

Diversion No.	Present Owner	Total cfs
90,91,110	Miles	1.40
92	Guidici, A.	1.05
92	Warren, W.	1.10
92,93,94,95,) 96,97,98,99,) 100,101,102,) 103,104,105,) 106,107,115)	Occidental Petroleum Co.	23.60
102,103	Genasci, J.	4.45
110,111,112	Genasci, L.	3.81
110,113,114	Ramelli, M.	4.80
108,114,115,) 116,117)	Hage, J.	4.50
108,118	Ede	2.20
119	Bradley	2.24
114,118,119	Nickols, R.	4.71

SCHEMATIC DIAGRAM OF SMITHNECK CREEK BELOW LOYALTON

FIGURE II.e

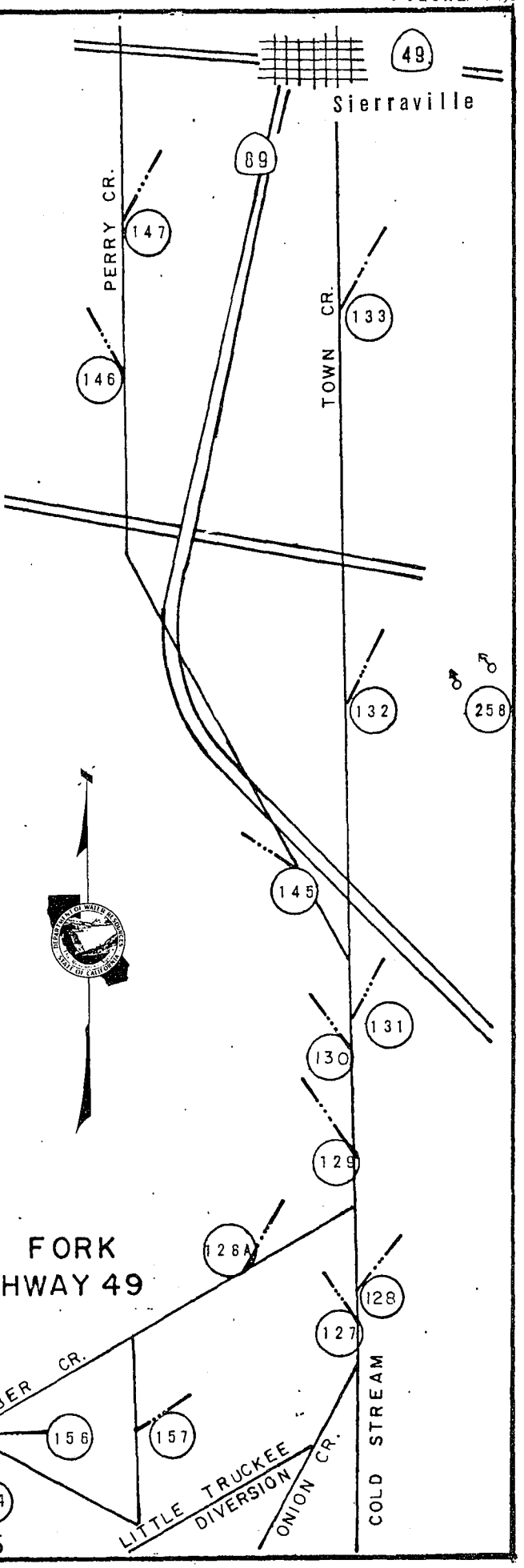
ALLOCATIONS FROM MIDDLE FORK FEATHER RIVER
SOUTH OF HIGHWAY 49

Diversion No.	Present Owner	Total cfs.
127	Morgan	0.12
155	Amodei, J.	2.50
133,156,157	McKinney	1.35
128,128A	Johnson, A. & Stodiek	0.905
133,134	Johnson, L.	1.04
134*	Johnson, S.	0.22
129*	G&M Ranches	2.30
131,132,145,) 258)	Pitchfork Cattle Co.	2.45
128,128A	Marin Girl Scouts	0.095
130	LaCosta, P.	0.006
130	Dellera, K.	0.025
145	Heinsen, A.	0.02
133	Goodrich, C.	0.02
134	Griffin, T.	0.03
134	Skutt, J.	0.08
134	West, H.	0.03
145	White, E.	0.10
145	Wright, I.	0.10
134	Roscoe, P.	0.10
134	Savage, H&E.	0.01
129,133**	Webber, G.	2.11
145	Scudder, N.	0.04
R. R. Springs	Sierraville PUD	0.654

* Both sides of Highway 49

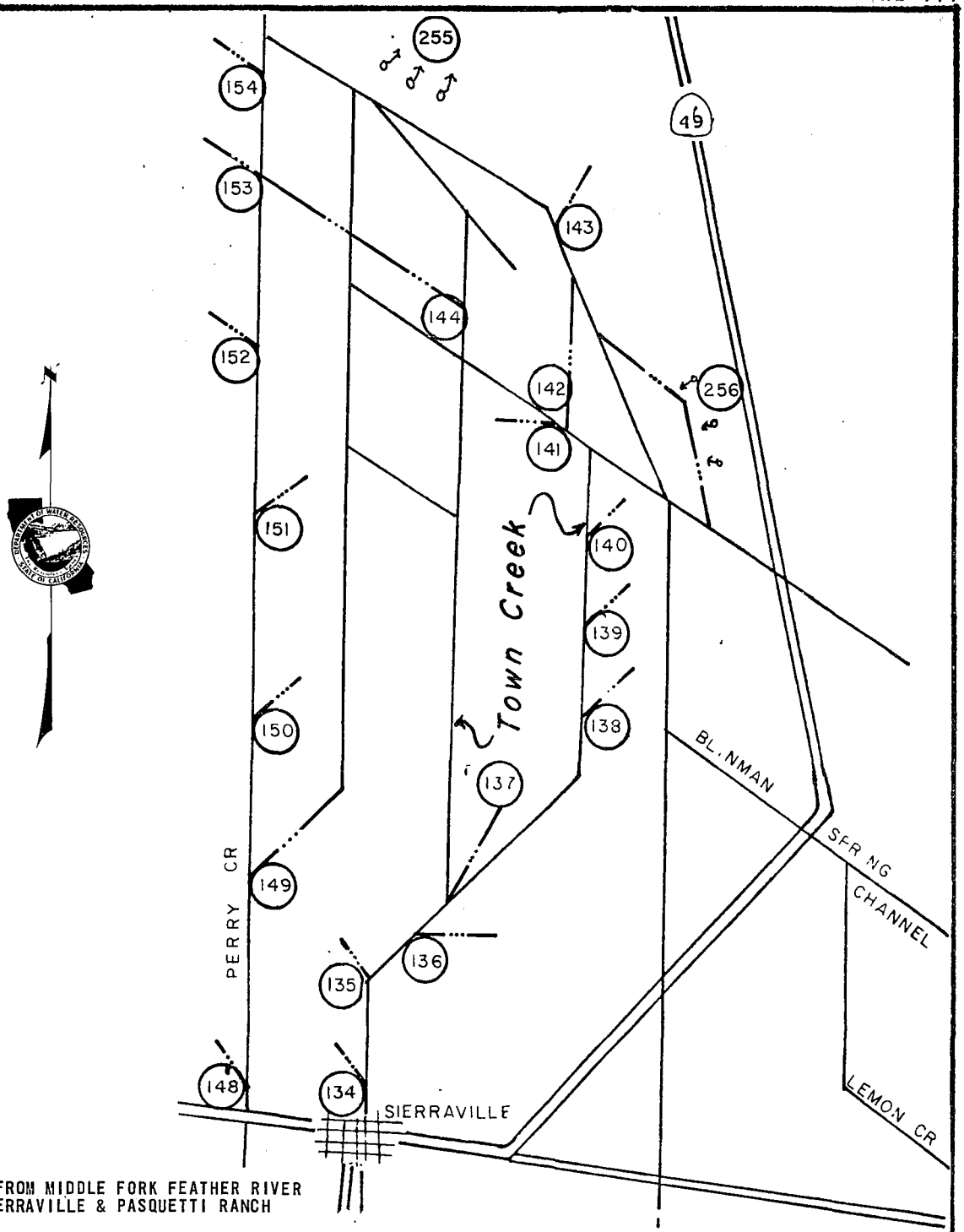
** Other allocations north of Highway 49

Rights under Div. 134, formerly used in Sierraville



SCHEMATIC DIAGRAM OF MIDDLE FORK FEATHER RIVER SOUTH OF HIGHWAY 49

FIGURE 11f



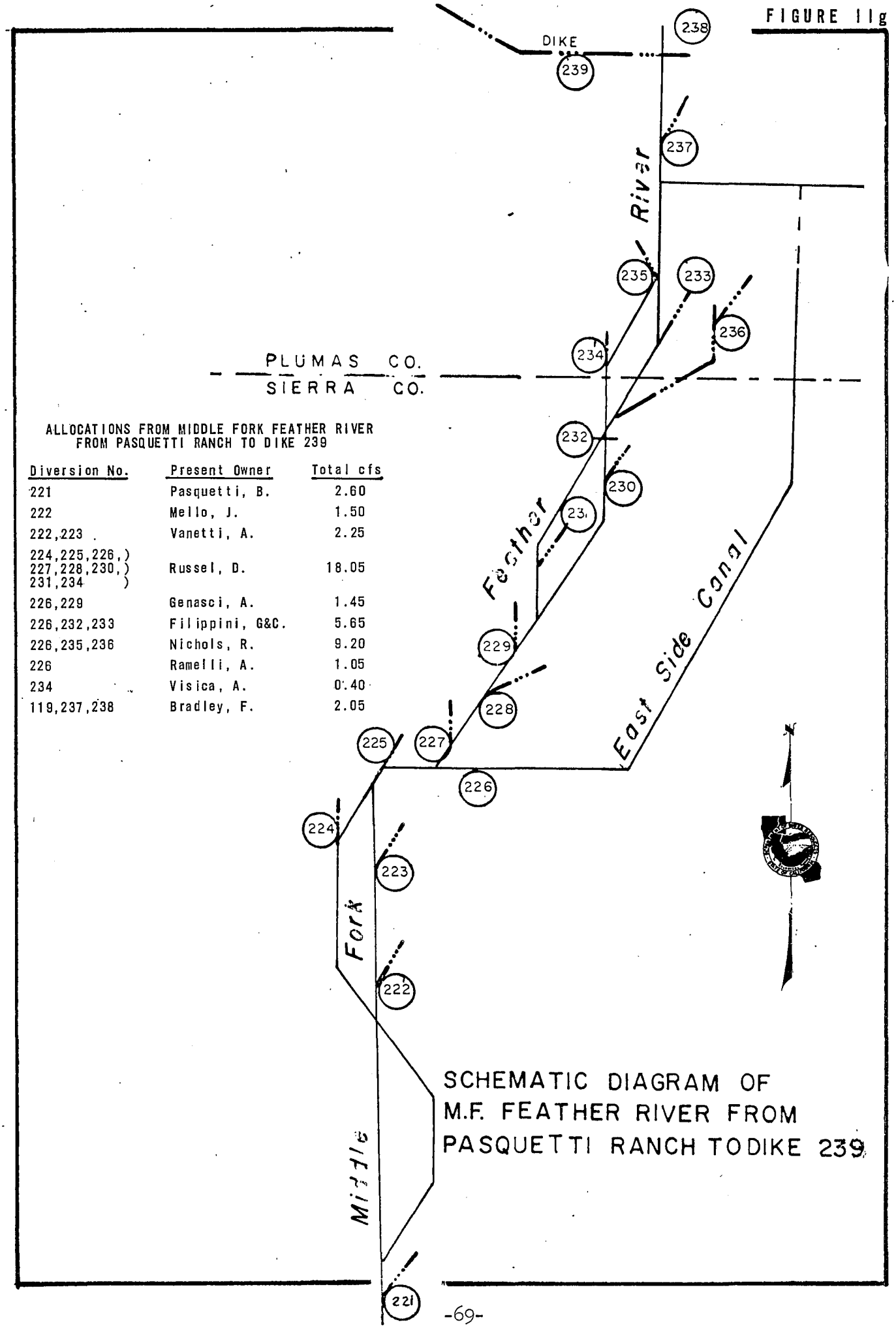
ALLOCATIONS FROM MIDDLE FORK FEATHER RIVER BETWEEN SIERRAVILLE & PASQUETTI RANCH

Diversion No.	Present Owner	Total cfs
134	Hannon, P.	0.015
134	Snozzi, A.	0.02
135	Carmichael, F.	0.55
137,141,146*,) 147*,149,152)	Webber, G.	13.00
136,137,138,) 139,147*)	Bony, M.	6.85
148	Wilson Bros.	2.00
148,149,150,) 151)	Small, F.	4.90
140,256	Alpers, F.	3.20
142,143,255	Torri, K.	4.00
144,153,154	Mooney, J.	2.00

* See Fig. 11e

SCHEMATIC DIAGRAM OF MIDDLE FORK FEATHER RIVER BETWEEN SIERRAVILLE AND PASQUETTI RANCH

FIGURE 11g

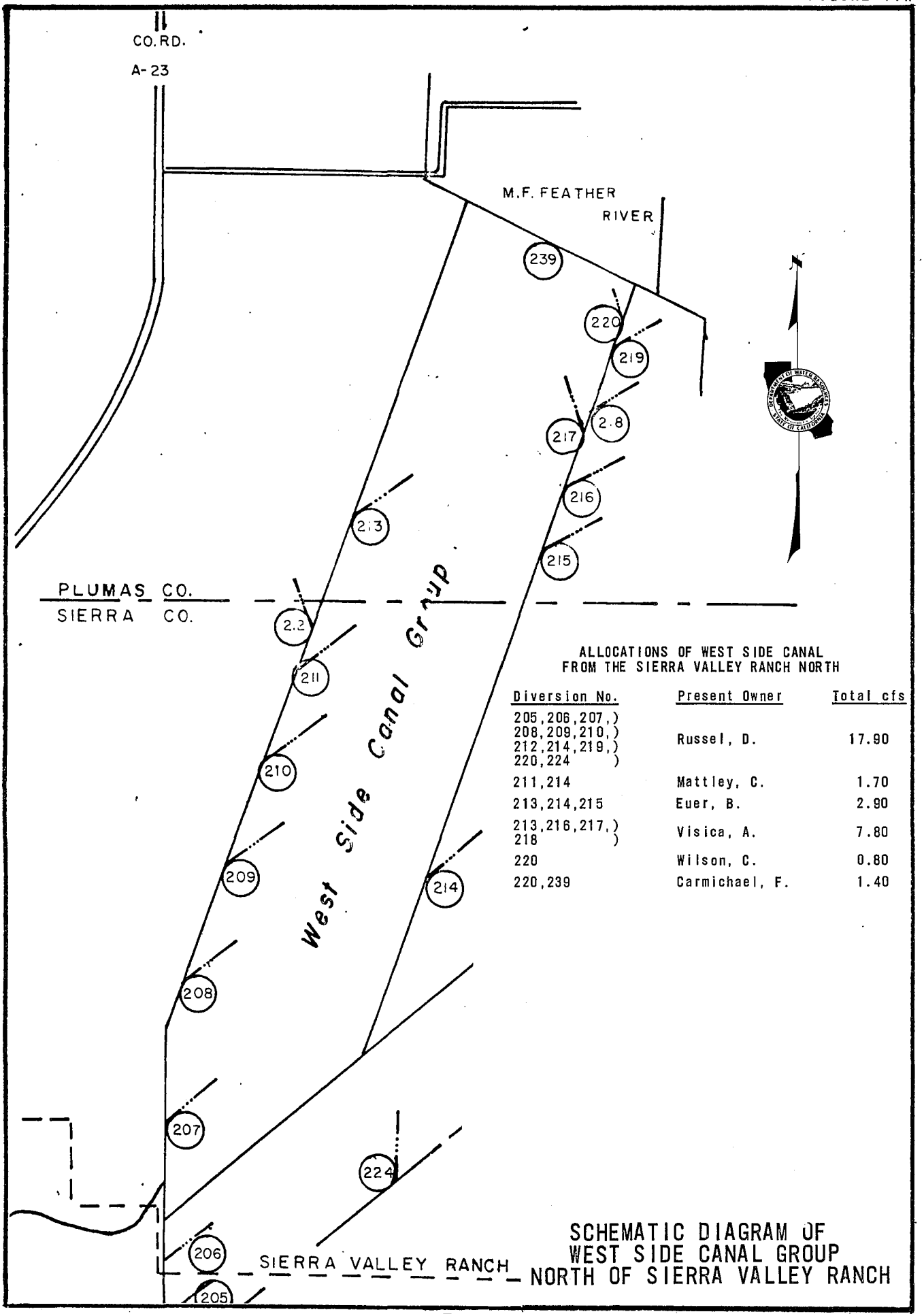


ALLOCATIONS FROM MIDDLE FORK FEATHER RIVER
FROM PASQUETTI RANCH TO DIKE 239

Diversion No.	Present Owner	Total cfs
221	Pasquetti, B.	2.60
222	Mello, J.	1.50
222,223	Vanetti, A.	2.25
224,225,226,) 227,228,230,) 231,234)	Russel, D.	18.05
226,229	Genasci, A.	1.45
226,232,233	Filippini, G&C.	5.65
226,235,236	Nichols, R.	9.20
226	Ramelli, A.	1.05
234	Visica, A.	0.40
119,237,238	Bradley, F.	2.05

SCHEMATIC DIAGRAM OF
M.F. FEATHER RIVER FROM
PASQUETTI RANCH TO DIKE 239

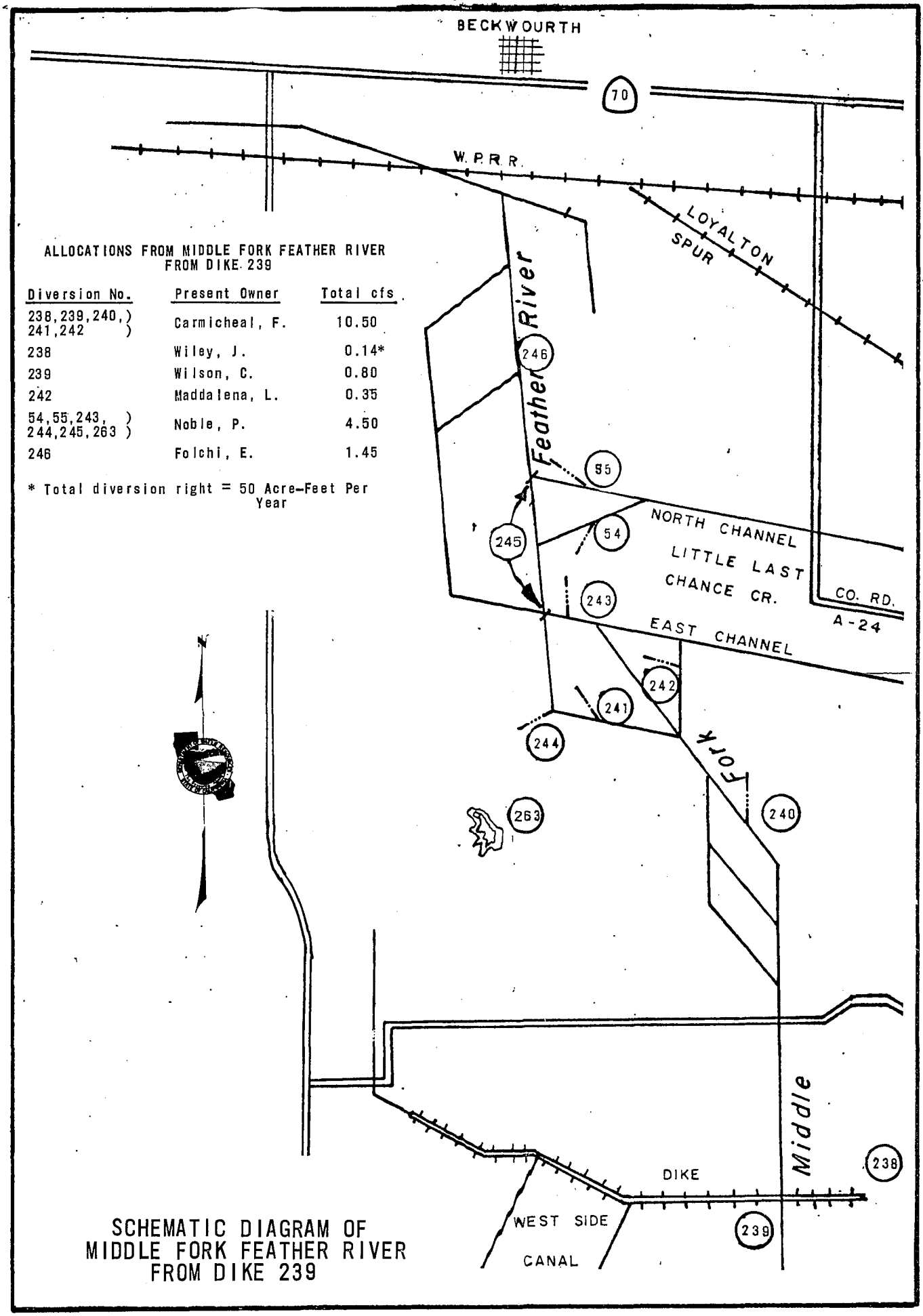
FIGURE 11h



ALLOCATIONS OF WEST SIDE CANAL
FROM THE SIERRA VALLEY RANCH NORTH

Diversion No.	Present Owner	Total cfs
205,206,207,) 208,209,210,) 212,214,219,) 220,224)	Russel, D.	17.90
211,214	Mattley, C.	1.70
213,214,215	Euer, B.	2.90
213,216,217,) 218)	Visica, A.	7.80
220	Wilson, C.	0.80
220,239	Carmichael, F.	1.40

SCHEMATIC DIAGRAM OF
WEST SIDE CANAL GROUP
NORTH OF SIERRA VALLEY RANCH



ALLOCATIONS FROM MIDDLE FORK FEATHER RIVER FROM DIKE 239

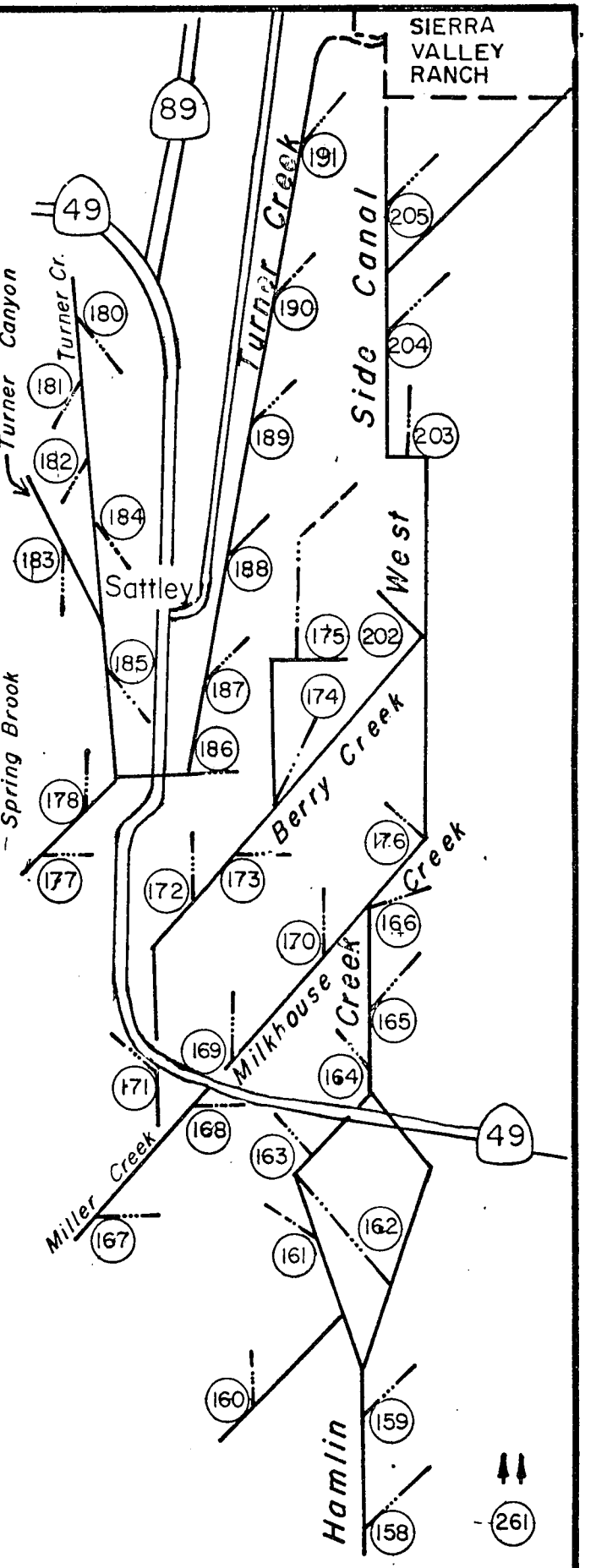
Diversion No.	Present Owner	Total cfs
238,239,240,) 241,242)	Carmicheal, F.	10.50
238	Wiley, J.	0.14*
239	Wilson, C.	0.80
242	Maddalena, L.	0.35
54,55,243,) 244,245,263)	Noble, P.	4.50
246	Folchi, E.	1.45

* Total diversion right = 50 Acre-Feet Per Year

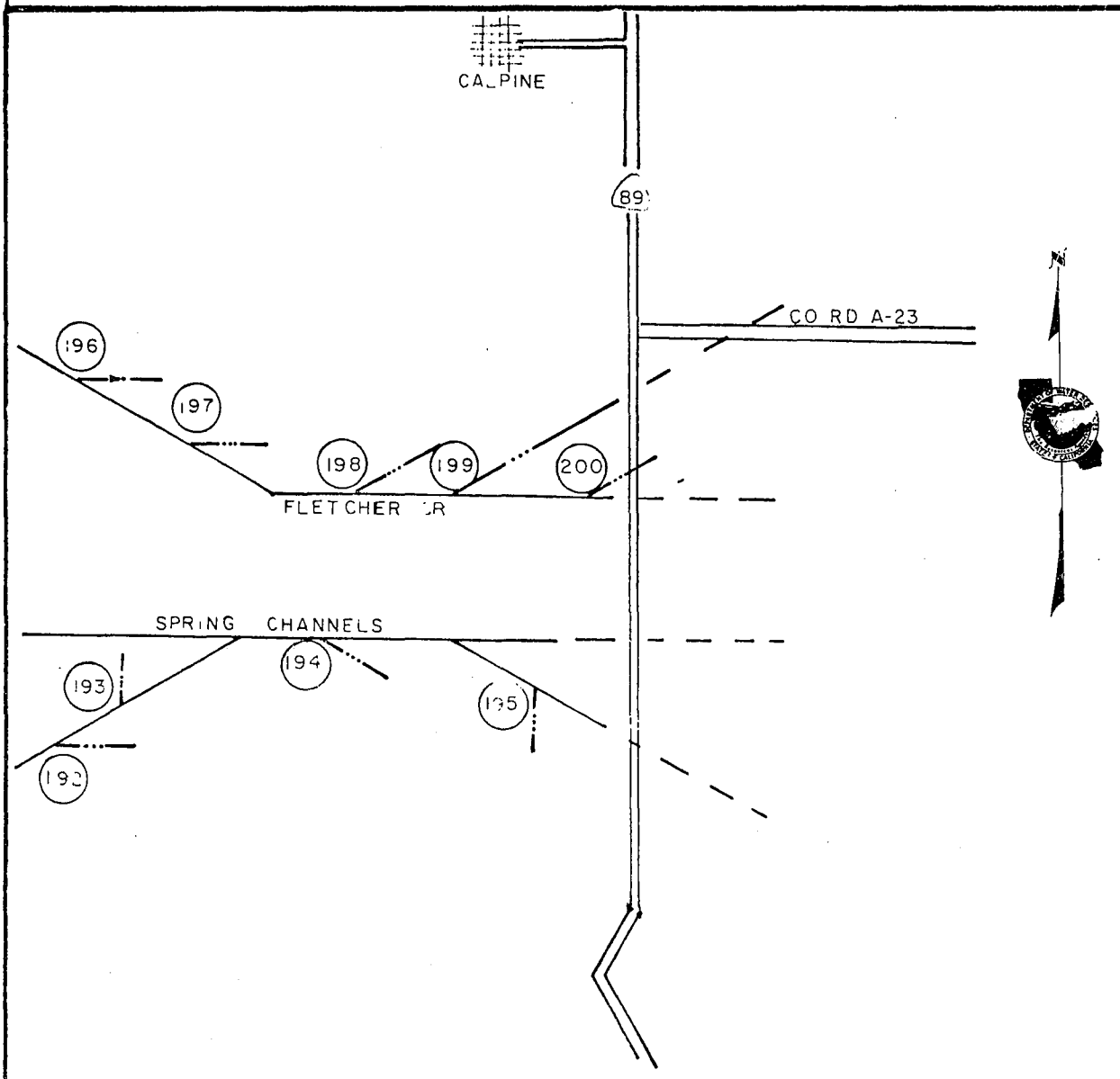
SCHEMATIC DIAGRAM OF MIDDLE FORK FEATHER RIVER FROM DIKE 239

ALLOCATIONS FROM WEST SIDE CANAL GROUP
SOUTH OF SIERRA VALLEY RANCH

Diversion No.	Present Owner	Total cfs
158,159,161,) 162,261)	Maddalena, L.	6.13
167	Strang, A&E.	0.01
160,161,163,) 164,167)	Strang, Estate of	8.54
165,167,168,) 169,170,171,) 173,174,177)	Martinetti, E.	6.33
165,166	Webber, G.	2.60
172,177,178,) 184,185)	Cavitt, J.	4.25
174,202	Openshaw, G.	2.10
175,184,186,) 187)	Church, G.	5.60
180	Turner, J.	0.02
175,181,182,) 183,184,185,) 187,189,190,) 202)	Turner, F.	10.25
176	Wilson Bros.	1.50
180,188	Dargie, T.	2.90
189	Berutti, J.	2.50
189,191,202,) 204,205	Van Vleck, G.	6.05
176,203	Mooney, J.	1.50
176	Pasguetti, B.	2.40



SCHEMATIC DIAGRAM OF
WEST SIDE CANAL GROUP
SOUTH OF SIERRA VALLEY RANCH



ALLOCATIONS FROM FLETCHER CREEK
AND SPRING CHANNELS

Diversion No.	Present Owner	Total cfs
196	Sierra Co. Water District	0.52
196	Blanchard, O.	0.04
177,178,192,) 193,194)	Borelli, A.	1.744
192	Scott, F.	0.05
192,193,194	Jinnette, F&W.	0.046
195,199,200	Paulson & Cadenhead	1.428
199	Lukens & Coppla	0.302
199,200	All Pro Guest Ranch	0.864
199,200	Berutti, J.	0.456

SCHEMATIC DIAGRAM
FLETCHER CREEK
AND
SPRING CHANNELS

North Fork Cottonwood Creek Service Area

The North Fork Cottonwood Creek service area is situated in Shasta County near the town of Ono west of Redding. Figure 12, page 77, shows the North Fork Cottonwood Creek stream system including the diversions and roads.

The source of water supply for this service area is the North Fork of Cottonwood Creek and its two major tributaries, Moon Creek and Jerusalem Creek. The North Fork of Cottonwood Creek flows through the service area in a southeasterly direction to its confluence with the other two major forks of Cottonwood Creek and then to the Sacramento River east of the town of Cottonwood. The service area consists of sparsely scattered parcels separated by steep, brushy hills. These lands are at about the 1,000-foot elevation.

Basis of Service

The water rights on this creek system were determined by court reference and set forth in Decree No. 5479, Shasta County Superior Court, dated June 9, 1920. The North Fork Cottonwood Creek watermaster service area was created September 11, 1929; however, service was provided intermittently in accordance with the decree since 1924. There are 13 water right owners in the area with total allotments of 30.30 cubic feet per second, all with equal priority.

Water Supply

Snowmelt contributes to the flow in the North Fork Cottonwood Creek system during the early part of the irrigation season. However, perennial springs provide the major source of supply during the summer and fall months. The flow is normally sufficient to supply all demands. In dry years, however, the available supply may be as low as 30 to 40 percent of the decreed allotments.

A record of the daily mean discharge of North Fork Cottonwood Creek near Igo is presented in Table 19, page 76. This gaging station is downstream from most diversion points on the creek, but gives a general indication of the water supply.

Method of Distribution

The general practice throughout the area is to irrigate by wild flooding. One water user, however, pumps directly from the creek using a sprinkler system to irrigate his crops. Pumping was necessary at this diversion point because the irrigated land was considerably higher in elevation than the creek channel.

1974 Distribution

Seth Barrett, Water Resources Technician II, was the watermaster for the North Fork Cottonwood Creek service area beginning June 1 and continuing until September 30.

The water supply for the 1974 season was one of the best on record. There was a surplus of flow past the lowest diverter at all times during the season; therefore, apportionment of the water was unnecessary.

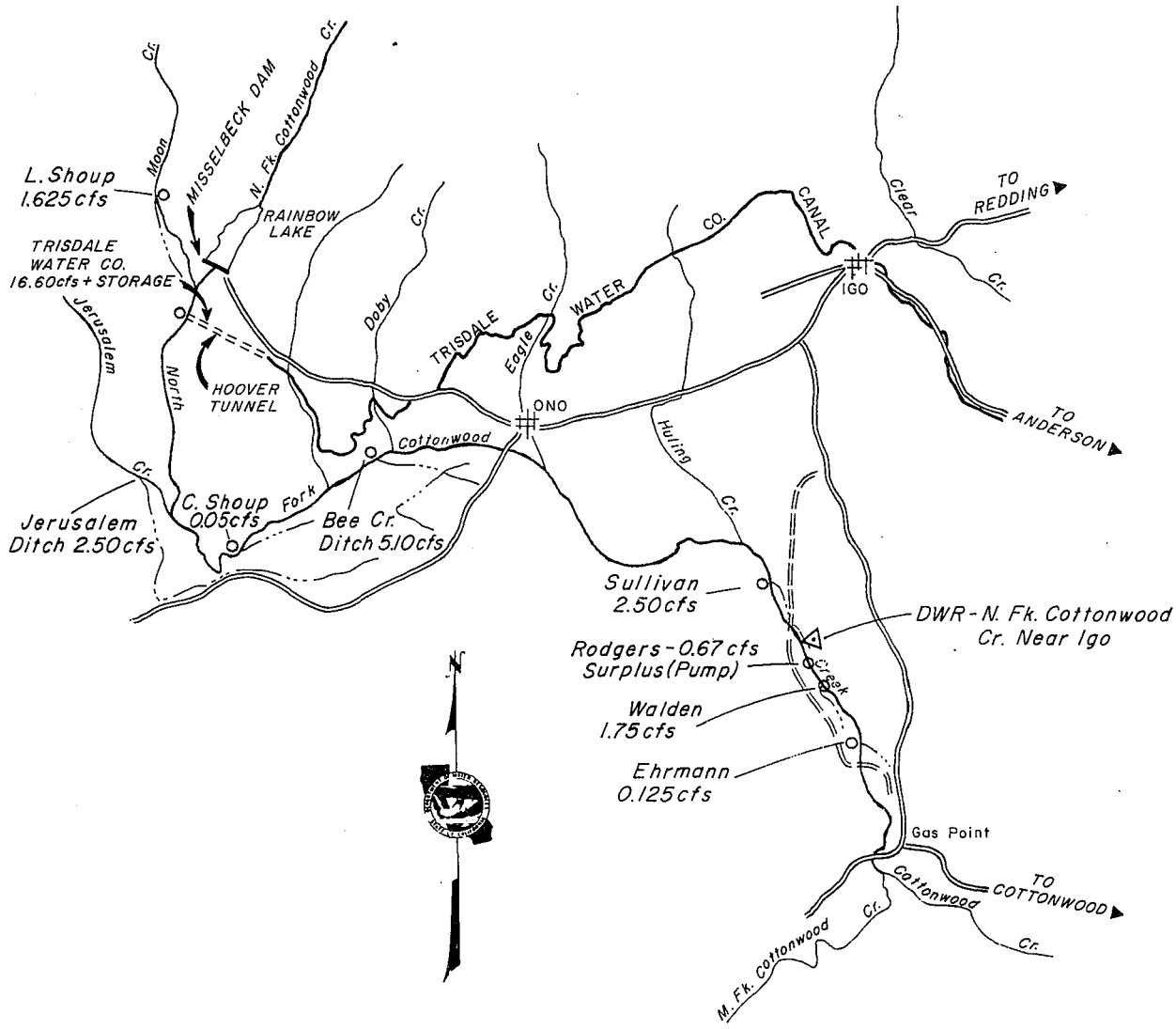
NORTH FORK COTTONWOOD CREEK WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 19

NORTH FORK COTTONWOOD CREEK NEAR IGO

Day	March	April	May	June	July	August	September	Day
1	547	3150	238	118	74	36	15	1
2	488	1690	229	115	73	36	14	2
3	467	1230	217	114	73	35	14	3
4	414	1050	203	114	70	35	13	4
5	385	996	199	110	70	47	12	5
6	401	921	194	110	68	42	11	6
7	570	839	189	108	66	37	11	7
8	374	796	184	106	68	34	11	8
9	310	780	180	106	67	32	11	9
10	283	645	174	102	66	31	9.9	10
11	699	573	172	98	66	31	10	11
12	819	537	165	97	63	31	11	12
13	644	515	165	94	63	31	11	13
14	586	497	159	94	61	29	11	14
15	544	477	159	92	58	29	10	15
16	496	444	156	90	56	28	9.9	16
17	433	402	155	90	54	28	10	17
18	362	363	151	87	55	27	10	18
19	316	303	153	88	55	27	9.9	19
20	280	277	150	89	54	27	9.9	20
21	254	265	142	87	52	24	9.9	21
22	229	258	135	87	51	21	9.9	22
23	207	288	130	85	50	20	9.7	23
24	185	328	130	83	49	19	9.6	24
25	181	287	127	83	47	17	9.5	25
26	150	289	126	80	45	18	9.6	26
27	193	271	126	80	44	17	9.6	27
28	313	268	122	79	42	18	9.3	28
29	2370	261	122	76	39	18	9.7	29
30	2530	248	119	76	38	16	10	30
31	1840		117		36	15		31
Mean	576	642	161	94.6	57.2	27.6	10.7	Mean
Runoff In Acre-Feet	35450	38180	9894	5629	3517	1698	637	Runoff In Acre-Feet



△ Permanent Recorder Station

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM
NORTH FORK COTTONWOOD CREEK
WATERMASTER SERVICE AREA

North Fork Pit River Watermaster Service Area

The North Fork Pit River service area lies along the west slopes of the Warner Mountains in northeastern Modoc County and extends southward from the Oregon border about 45 miles to just south of Alturas.

Eight small independent streams draining the west slope of the Warner Mountains and generally following a westerly direction comprise the major source of water supply. Three of these streams, New Pine, Cottonwood, and Davis Creeks, are tributary to Goose Lake. The other 5 are tributary to the North Fork Pit River. From north to south these are: Linville, Franklin, Joseph, Thoms, and Parker Creeks.

The North Fork Pit River flows in a southerly direction from the south rim of Goose Lake Basin to its confluence with the South Fork Pit River immediately below Alturas. The basins of Goose Lake and the North Fork Pit River may be considered as completely separate, since the lake has not spilled into the river for nearly 100 years.

The place of use in the northern half of the area lies in a relatively long, narrow, sloping strip extending between the east shore of Goose Lake and the foothills of the Warner Mountains. The places of use in the southern half of the area, which are supplied from the North Fork Pit River and its tributaries, are primarily in the narrow valleys bordering the streams. The elevation of the places of use range from about 4,350 feet just below Alturas to about 5,200 feet at the upper portions on some of the creeks.

Maps of the North Fork Pit River watermaster service area and of the separate stream systems within the area are presented as Figures 13 through 13j, pages 88 through 98.

Basis of Service

There are 91 water right owners in the service area with allotments totaling 214.55 cubic feet per second. Table 20, page 80, briefly outlines the five decrees covering the area and presents data relative to establishment of watermaster service and water rights.

Water Supply

The water supply is derived primarily from snowmelt for all streams in the North Fork Pit River service area except Linville Creek, which, having a relatively small drainage area, is almost entirely spring fed. After mid-June, the rest of the streams also depend on springs, but diminish rapidly until mid-July, after which the flow remains fairly constant. There are several small reservoirs in the area, but they are used essentially as regulatory storage.

Method of Distribution

Distribution is accomplished by diversion structures in the main channels diverting into ditches which convey the water to its place of use. Wild flooding from small feeder ditches is the common method of application. There is, however, increasing use of sprinkler systems, some directly from ditches with supplemental ground water being added as the surface flow diminishes. Subirrigation by the use of large flashboard dams to raise the water level in the channel is practiced along the North Fork Pit River between Parker Creek and Alturas.

1974 Distribution

Watermaster service in the North Fork Pit River service area was begun on April 7 and continued through September 30. Eldon E. Rinehart, Water Resources Engineering Associate, was the watermaster for all the streams in the area

TABLE 20

DECREES AND RELATED DATA - NORTH FORK PIT RIVER SERVICE AREA

Stream	Modoc County Superior Court Decree No.	Date	Type[a/]	Service Area Created	No. of Water Right Owners	Total Cubic Feet Per Second	Remarks
New Pine Creek	2821	6-14-32	CR	6-22-32	21	22.18	Decree does not define town users rights, but by agreement they may divert from 7 a.m. Monday until 7 a.m. Tuesday, further modified to a continuous flow used in rotation.
Cottonwood Creek	2344	5-03-40	CR	12-13-40	5	15.35	When water for Diversion No. 3 is insufficient to reach the area of use, it is diverted at Diversion No. 4.
Davis Creek	2782	6-30-32	CR	7-13-32	19	52.70	4 priorities, 4-1 to 9-15. Some rights vary according to flow available. Most 1st & 2nd priorities are year-round. One second priority right is for 0.40 cfs export for Roberts Creek.
					2[b/]		Appropriative Permit 9825 allows diversion from North Fork Davis Creek and License 10549 to divert from Davis Creek, both for the period from 10-1 to 5-1.
Franklin Creek	3118	9-08-33	CR	9-14-33	4	11.66	4 priorities. The 1st priority and all 2nd priority rights are year-round, except one, which is equal to all the others (1.46 cfs), and is for the period 9-15 to 3-31 annually. Third and fourth priorities are for 4-1 to 9-30 each year.
North Fork Pit River	4074	12-14-34	S	12-18-39	10	51.73	5 priorities, 4-1 to 9-30. Dorris Reservoir water diverted through Parker Creek ditch on Parker Creek. 4th and 5th priorities are special class.
Linville	4074	12-14-39	S	12-18-39	3	8.30	2 priorities.
Joseph	4074	12-14-39	S	12-18-39	6	11.98	4 priorities, 4-1 to 9-30. Diversions on south side of stream, with the exception of No. 26, are on net consumptive use basis.
Parker	4074	12-14-39	S	12-18-39	7	18.07	4 priorities, 4-1 to 9-30, Diversion to Dorris Reservoir shown on North Fork Pit River schedule is made at No. 120, Parker Creek ditch.
Shielfs	4074	12-14-39	S	12-18-39	5	7.50	4 priorities, 4-1 to 9-30.
Thoms	4074	12-14-39	S	12-18-39	9	6.44 9.40	3 priorities, 4-1 to 9-30. (5.0 cfs export to Cedar Cr. (4.40 cfs export to Stony Canyon.
Gleason	4074	12-14-39	S	12-18-39	4	4.45	5 priorities.

a/ S-Statutory, CR-Court Reference,

b/ Appropriative rights, junior to the decreed rights.

except Parker and Shields Creeks, which were handled by L. L. Bates, Water Resources Engineering Associate.

New Pine Creek. Surplus water was available to New Pine Creek water right owners through June 30, the period that the proration or correlative system of distribution was in effect. Beginning July 1, distribution is based on the priority system in accordance with the decree. Fourth priority allotments were satisfied until July 12. Following that date, the flow gradually decreased to 5.5 cfs, or enough to satisfy the first, second, and approximately 95 percent of the third priority allotments at the end of the watermaster season on September 30.

Cottonwood Creek. The flow in Cottonwood Creek was adequate to satisfy all six priorities until May 11. Thereafter the flow dropped rapidly to May 15 when only sufficient water was available to meet about 47 percent of first priority allotments. The flow remained fairly constant through July, but then dropped off until at the end of the season on September 30 only enough flow remained to supply about 11 percent of first priorities.

Davis Creek. The water supply in Davis Creek was sufficient to satisfy all allotments until June 7. Thereafter the flow gradually diminished. Third priority allotments were met until June 16, and second priority allotments were served throughout the remainder of the season. On September 30 the flow was 6.4 cfs, or sufficient to meet first, second, and about 4 percent of the third priority allotments.

Linville Creek. Spring-fed Linville Creek maintains a remarkably uniform flow throughout the watermaster season. The available water supply in the creek remained fairly constant from the start of the 1974 season when the flow was about 3.0 cfs to the end of the season when the flow was 2.5 cfs. The flow was sufficient to meet 100 percent of first priority allotments and 2 percent of second priority allotments.

Franklin Creek. The water supply in Franklin Creek was sufficient to satisfy all allotments from April 23 through June 2. All third priority rights were met until June 7; the flow then gradually decreased to 4 cfs on June 29, at which time all of the first, second, and about 22 percent of the third priority allotments were being met. From then until mid-September the flow remained fairly uniform. On September 15 when the winter schedule of priorities became effective, the flow was 3.4 cfs, or enough to satisfy the first and second priority rights of the winter schedule.

Joseph Creek. A surplus water supply existed in Joseph Creek from the beginning of the watermaster service until June 12. The flow then gradually decreased to July 15 when it measured 3.3 cfs, or sufficient to satisfy the first priority rights and about 33 percent of second priority rights. The flow remained fairly constant until mid-August, then gradually diminished to 2.5 cfs on September 30 when the watermaster season ended. Thus, the first priority rights were met throughout the season.

Thoms Creek. The water supply in Thoms Creek was adequate to supply all allotments until June 13. Thereafter the flow decreased fairly uniformly to the end of the watermaster season on September 30, when the flow was 0.1 cfs, or sufficient to meet 10 percent of the first priority allotments.

North Fork Pit River. A surplus water supply existed in the North Fork Pit River until May 22. Following that date the flow gradually decreased until July 15, when only the first priority allotments were being met. The flow gradually declined until September 30 when the flow was 5.8 cfs, or enough to meet approximately 75 percent of first priority allotments.

Parker Creek. The flow was sufficient to satisfy all four priorities until June 7. A portion of fourth priorities was served until June 14. All first and second priorities received full allotments, but thirds decreased from 71 percent to 6 percent for the remainder of the season.

Shields Creek. There was sufficient flow to serve all four priorities until July 18. First, second, and third priorities were then served until August 5, at which time the flow had receded until only first and approximately 60 percent of seconds were satisfied for the rest of the season.

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 21

NEW PINE CREEK BELOW SCHROEDER'S

Day	March	April	May	June	July	August	September	Day
1		16*	34	43	30	12	5.5	1
2		15	37	45	28	11	5.5	2
3		14	37	49	28	10	5.3	3
4		13	38	49	28	10	5.3	4
5		12	41	46	26	9.8	5.3	5
6		12	44	44	24	10	5.3	6
7		12	46	41	24	10	5.7	7
8		12	51	36	24	10	6.2	8
9		13	54	36	24	9.8	6.5	9
10		13	53	36	24	9.3	6.5	10
11		13	46	39	23	9.3	6.5	11
12		12	44	41	22	9.3	6.2	12
13		13	41	41	21	9.3	6.2	13
14		13	39	39	19	7.0	6.2	14
15		14	39	38	19	5.9	5.9	15
16		15	38	37	19	5.7	5.9	16
17		16	37	37	18	5.5	5.9	17
18		24	36	36	17	5.5	5.9	18
19		22	34	34	17	5.5	5.9	19
20		21	33	34	16	5.7	5.9	20
21		23	34	31	15	6.5	5.7	21
22		25	37	31	14	6.5	5.7	22
23		26	39	30	14	6.2	5.5	23
24		28	41	28	13	6.2	5.5	24
25		24	49	28	13	5.9	5.5	25
26		24	57	33	13	5.7	5.5	26
27		23	59	32	12	5.5	5.7	27
28		22	47	31	12	5.3	5.7	28
29		22	46	30	12	5.2	5.5	29
30		24	46	30	12	5.3	5.5	30
31			43		12	5.5		31
Mean		17.9	42.6	36.8	19.1	7.5	5.8	Mean
Runoff In Acre-Feet		1063	2612	2192	1176	464	343	Runoff In Acre-Feet

* Beginning of Record

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 22

COTTONWOOD CREEK BELOW LARKIN GARDEN DITCH

Day	March	April	May	June	July	August	September	Day
1			9.5	1.4	1.6	1.0	0.5	1
2			17	1.4	1.6	1.0	0.5	2
3			17	2.0	1.6	0.9	0.5	3
4			16	2.0	1.6	0.9	0.5	4
5			17	1.4	1.6	0.9	0.5	5
6			22	1.4	1.6	0.9	0.5	6
7		15*	24	2.0	1.5	0.9	0.5	7
8		15	28	1.7	1.5	0.9	0.5	8
9		11	24	1.6	1.4	0.9	0.5	9
10		11	22	1.5	1.4	0.9	0.5	10
11		11	16	1.6	1.4	0.9	0.5	11
12		10	11	1.6	1.3	0.9	0.5	12
13		8.8	9.5	1.6	1.3	0.9	0.5	13
14		7.6	3.2	1.6	1.3	1.0	0.5	14
15		7.6	1.7	1.6	1.2	1.0	0.4	15
16		7.6	1.5	1.5	1.2	1.0	0.4	16
17		4.8	1.4	1.6	1.2	1.0	0.4	17
18		3.2	1.4	1.6	1.2	1.0	0.4	18
19		2.6	1.5	1.6	1.1	1.0	0.4	19
20		2.3	1.4	1.5	1.1	0.9	0.4	20
21		2.0	1.3	1.5	1.2	0.9	0.4	21
22		1.8	1.0	1.4	1.3	0.9	0.4	22
23		1.7	0.7	1.3	1.4	0.9	0.4	23
24		3.5	1.0	1.4	1.2	0.8	0.5	24
25		4.0	1.0	1.3	1.2	0.8	0.5	25
26		5.6	1.7	1.4	1.1	0.8	0.5	26
27		3.2	2.0	1.5	1.1	0.8	0.4	27
28		2.8	2.0	1.5	1.1	0.8	0.4	28
29		2.5	1.4	1.6	1.0	0.7	0.4	29
30		3.2	1.3	1.6	1.0	0.7	0.4	30
31			1.3		1.0	0.6		31
Mean		6.2	8.4	1.6	1.3	0.9	0.5	Mean
Runoff In Acre-Feet		293	515	93	80	55	27	Runoff In Acre-Feet

* Beginning of Record

TABLE 23

DAVIS CREEK ABOVE DIVERSION NO. 4

Day	March	April	May	June	July	August	September	Day
1		27*	34	62	20	11	6.6	1
2		25	39	61	21	11	6.6	2
3		24	41	60	20	10	6.6	3
4		23	41	60	22	11	6.5	4
5		23	45	58	21	11	6.4	5
6?		22	47	56	21	11	6.4	6
7		23	49	52	20	11	6.5	7
8		23	52	50	22	11	6.4	8
9		23	48	49	20	10	6.4	9
10		23	49	50	18	10	6.2	10
11		22	51	51	17	9.3	6.4	11
12		21	55	49	17	9.7	6.5	12
13		22	61	45	17	9.7	7.2	13
14		22	62	43	16	9.3	7.1	14
15		23	67	40	16	9.3	6.5	15
16		23	65	35	17	9.3	6.5	16
17		24	64	31	16	9.3	6.4	17
18		29	65	26	16	9.3	6.4	18
19		31	63	26	16	9.3	6.4	19
20		31	61	27	15	9.0	6.5	20
21		30	60	26	15	8.7	6.6	21
22		31	58	25	15	8.4	7.2	22
23		30	59	23	14	8.4	7.3	23
24		31	60	23	14	8.0	7.1	24
25		30	60	22	14	8.0	6.7	25
26		30	62	22	14	8.0	6.5	26
27		29	63	20	14	8.0	6.4	27
28		29	61	21	13	7.7	6.2	28
29		27	60	21	13	7.7	6.2	29
30		28	62	21	12	7.5	6.4	30
31			65		11	7.1		31
Mean		26.0	55.8	38.5	16.7	9.6	6.6	Mean
Runoff In Acre-Feet		1545	3429	2291	1025	592	391	Runoff In Acre-Feet

* Beginning of Record

TABLE 24

LINVILLE CREEK AT OLD POWER HOUSE

Day	March	April	May	June	July	August	September	Day
1			2.9	3.3	2.5	2.4	2.4	1
2			3.0	3.3	2.5	2.4	2.4	2
3			3.5	3.3	2.4	2.4	2.4	3
4			3.7	3.3	2.4	2.4	2.3	4
5			3.7	3.1	2.4	2.4	2.3	5
6			3.7	3.1	2.4	2.4	2.3	6
7			3.7	3.0	2.4	2.4	2.3	7
8			3.7	2.9	2.4	2.4	2.3	8
9			4.0	2.8	2.4	2.4	2.3	9
10			4.0	2.7	2.4	2.4	2.4	10
11			4.0	2.6	2.3	2.4	2.4	11
12			4.0	2.5	2.3	2.3	2.4	12
13			3.8	2.5	2.3	2.2	2.4	13
14			3.7	2.5	2.3	2.2	2.4	14
15			3.5	2.5	2.3	2.2	2.4	15
16			3.3	2.5	2.3	2.2	2.4	16
17			3.3	2.5	2.3	2.2	2.4	17
18			3.3	2.5	2.3	2.3	2.5	18
19			3.1	2.5	2.3	2.4	2.5	19
20			3.0	2.5	2.3	2.4	2.5	20
21			2.9	2.5	2.3	2.4	2.5	21
22			2.9	2.5	2.3	2.4	2.5	22
23			2.8	2.5	2.3	2.4	2.5	23
24			2.7	2.5	2.3	2.4	2.5	24
25			2.9	2.5	2.3	2.4	2.5	25
26			3.0	2.5	2.4	2.4	2.5	26
27			3.1	2.5	2.4	2.4	2.5	27
28			3.3	2.5	2.4	2.4	2.5	28
29			3.3	2.5	2.4	2.4	2.5	29
30		2.9*	3.3	2.5	2.4	2.4	2.5	30
31			3.9		2.4	2.4		31
Mean		2.9	3.4	2.7	2.4	2.4	2.4	Mean
Runoff In Acre-Feet		3	208	160	145	145	144	Runoff In Acre-Feet

* Beginning of Record

TABLE 25

FRANKLIN CREEK ABOVE DIVERSIONS

Day	March	April	May	June	July	August	September	Day
1		2.0*	12	11	4.0	3.0	3.0	1
2		2.0	13	11	4.0	3.0	3.0	2
3		1.9	13	10	4.0	3.0	3.0	3
4		1.9	14	10	4.0	3.1	3.0	4
5		1.9	14	10	4.0	3.3	2.9	5
6		1.9	15	10	4.0	3.3	2.9	6
7		1.9	16	10	3.9	3.3	3.0	7
8		2.0	16	9.2	4.4	3.2	3.0	8
9		2.0	16	8.4	4.4	3.0	3.0	9
10		2.0	15	8.0	4.3	3.1	3.1	10
11		2.5	15	7.3	4.3	3.1	3.2	11
12		3.0	15	7.2	4.0	3.1	3.3	12
13		3.2	15	6.6	4.0	3.0	3.3	13
14		3.3	14	6.3	4.0	3.0	3.4	14
15		3.3	13	6.3	3.9	3.0	3.4	15
16		4.8	13	6.3	3.9	3.3	3.4	16
17		6.2	12	6.3	3.9	3.4	3.4	17
18		8.0	11	6.2	3.8	3.9	3.3	18
19		8.8	11	6.0	3.4	4.0	3.3	19
20		9.6	10	5.6	3.4	4.4	3.1	20
21		8.8	10	5.6	3.4	4.4	3.0	21
22		9.6	9.9	5.6	3.4	3.4	3.0	22
23		11	9.9	5.5	3.3	3.0	3.0	23
24		11	10	5.4	3.3	2.9	3.0	24
25		11	10	4.9	3.2	2.9	3.0	25
26		11	10	4.8	3.3	2.9	3.1	26
27		11	10	4.7	3.3	3.0	3.1	27
28		11	10	4.4	3.3	3.0	3.1	28
29		12	10	4.0	3.3	3.0	3.1	29
30		12	10	4.0	3.2	3.0	3.1	30
31			10		3.0	3.0		31
Mean		6.0	12.3	7.0	3.7	3.2	3.1	Mean
Runoff In Acre-Feet		358	759	418	229	198	187	Runoff In Acre-Feet

* Beginning of Record

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 26

JOSEPH CREEK BELOW COUCH CREEK

Day	March	April	May	June	July	August	September	Day
1		16*	11	9.1	4.3	4.3	2.7	1
2		13	12	9.1	4.3	4.1	2.7	2
3		12	12	9.1	3.6	4.0	2.7	3
4		12	12	9.0	3.6	3.9	2.7	4
5		12	13	9.0	3.6	3.8	2.6	5
6		11	13	9.0	3.6	3.6	2.6	6
7		12	14	9.0	3.6	3.4	2.6	7
8		11	16	8.9	3.9	3.2	2.6	8
9		11	16	8.8	3.6	3.2	2.6	9
10		12	16	8.8	3.5	3.2	2.5	10
11		12	14	8.8	3.5	3.2	2.5	11
12		11	14	8.6	3.4	3.1	2.5	12
13		11	13	8.1	3.4	3.1	2.5	13
14		13	12	8.1	3.4	3.2	2.5	14
15		13	10	7.5	3.3	3.2	2.5	15
16		13	9.1	7.5	3.3	3.1	2.5	16
17		16	9.1	6.9	3.3	3.0	2.5	17
18		16	9.1	6.9	3.3	3.0	2.7	18
19		18	9.1	6.9	3.3	3.0	2.9	19
20		18	9.0	6.4	3.3	3.0	2.9	20
21		14	9.0	6.4	3.3	3.0	2.9	21
22		14	9.0	6.0	3.2	2.9	2.9	22
23		14	9.0	6.0	3.2	2.9	2.9	23
24		12	9.0	6.0	3.3	2.9	2.9	24
25		10	9.0	5.8	3.3	2.8	2.9	25
26		10	9.1	5.7	3.4	2.8	2.7	26
27		9.1	9.1	5.3	3.5	2.8	2.5	27
28		9.1	9.1	4.9	3.6	2.7	2.5	28
29		9.1	9.0	4.3	3.8	2.7	2.5	29
30		10	9.0	4.3	4.0	2.7	2.5	30
31			9.0		4.2	2.7		31
Mean		12.5	11.0	7.3	3.5	3.2	2.7	Mean
Runoff In Acre-Feet		742	680	437	218	195	158	Runoff In Acre-Feet

* Beginning of Record

TABLE 27

NORTH FORK PIT RIVER BELOW THOMS CREEK

Day	March	April	May	June	July	August	September	Day
1			82	43	12	6.6	7.6	1
2			79	41	12	6.8	7.6	2
3			78	38	11	6.8	7.6	3
4			75	38	11	6.8	7.5	4
5			75	38	10	6.6	7.5	5
6			75	35	9.6	6.3	7.5	6
7			78	37	8.8	6.3	7.6	7
8			86	35	8.8	6.1	7.6	8
9			94	33	8.8	5.9	7.6	9
10		94*	94	30	8.6	5.9	7.6	10
11		110	90	28	8.5	6.1	7.6	11
12		113	84	28	8.5	6.1	7.5	12
13		108	80	28	8.3	6.1	7.5	13
14		102	76	27	8.3	6.3	7.3	14
15		94	74	26	8.0	6.3	7.1	15
16		90	73	26	7.6	6.3	7.0	16
17		90	73	25	7.4	6.6	6.8	17
18		94	73	25	6.8	6.6	6.8	18
19		90	72	20	6.5	7.0	6.8	19
20		86	71	19	6.0	7.0	6.6	20
21		82	62	17	5.8	7.0	6.4	21
22		82	48	15	5.8	7.2	6.4	22
23		82	48	14	5.8	7.2	6.5	23
24		82	50	14	5.8	7.4	6.5	24
25		82	48	15	5.6	7.4	6.3	25
26		80	48	14	5.6	7.4	6.1	26
27		78	50	13	5.8	7.4	6.1	27
28		78	52	13	6.0	7.4	6.0	28
29		80	49	12	6.0	7.5	5.8	29
30		82	48	12	6.2	7.5	5.8	30
31			48		6.3	7.6		31
Mean		89.5	68.8	25.3	7.8	6.8	6.7	Mean
Runoff In Acre-Feet		3727	4231	1505	478	417	415	Runoff In Acre-Feet

* Beginning of Record

TABLE 28

THOMS CREEK AT CEDARVILLE-ALTURAS HIGHWAY

Day	March	April	May	June	July	August	September	Day
1			52	10	4.4	0.4	0.4	1
2		27*	50	10	4.4	0.4	0.4	2
3		26	45	11	4.4	0.4	0.4	3
4		25	45	11	4.4	0.4	0.5	4
5		24	52	10	4.4	0.3	0.5	5
6		23	58	9.3	4.3	0.3	0.4	6
7		24	39	8.3	4.3	0.3	0.4	7
8		25	28	9.3	4.3	0.2	0.3	8
9		25	23	9.3	4.1	0.2	0.3	9
10		24	20	9.3	4.3	0.2	0.3	10
11		24	16	8.3	4.4	0.2	0.3	11
12		24	18	7.3	4.4	0.3	0.2	12
13		25	19	6.3	4.3	0.2	0.2	13
14		26	16	5.4	3.2	0.2	0.2	14
15		27	14	5.4	2.7	0.2	0.2	15
16		30	13	5.4	2.2	0.2	0.2	16
17		38	11	4.6	2.4	0.2	0.2	17
18		35	9.3	4.6	2.4	0.2	0.2	18
19		32	9.3	4.6	2.0	0.2	0.2	19
20		32	10	4.6	1.9	0.2	0.1	20
21		35	10	3.7	1.4	0.2	0.1	21
22		45	10	3.7	1.0	0.2	0.1	22
23		33	11	3.7	0.9	0.2	0.1	23
24		35	13	3.7	0.9	0.2	0.1	24
25		32	16	3.7	0.8	0.2	0.1	25
26		30	16	3.7	0.8	0.3	0.1	26
27		28	15	3.7	0.8	0.3	0.1	27
28		27	10	3.9	0.7	0.3	0.1	28
29		28	10	4.1	0.7	0.3	0.1	29
30		38	9.3	4.3	0.7	0.3	0.1	30
31			9.3		0.6	0.4		31
Mean		29.2	21.8	6.4	2.7	0.3	0.3	Mean
Runoff In Acre-Feet		1680	1343	381	164	16	14	Runoff In Acre-Feet

* Beginning of Record

TABLE 29

PARKER CREEK AT FOGARTY RANCH

Day	March	April	May	June	July	August	September	Day
1		45E*	66	34	5.6	4.0	3.4	1
2		45E	66	34	5.0	3.9	3.4	2
3		45E	66	33	4.6	3.9	3.4	3
4		45E	65	33	4.5	3.9	3.4	4
5		45E	66	35	4.6	12	3.4	5
6		45	68	33	4.5	5.3	3.4	6
7		45	70	30	4.4	4.1	3.2	7
8		48	75	28	5.3	4.1	3.2	8
9		48	72	26	6.6	4.0	3.1	9
10		45	68	24	5.9	4.0	3.1	10
11		46	65	22	5.8	4.0	3.0	11
12		48	62	22	5.8	3.9	3.0	12
13		46	57	21	5.2	3.9	3.0	13
14		48	53	20	4.5	3.8	2.9	14
15		52	48	13	4.4	3.8	2.8	15
16		58	46	11	4.8	3.8	2.8	16
17		64	46	11	4.7	3.8	2.7	17
18		66	44	11	4.5	3.7	2.7	18
19		64	41	11	4.5	3.7	2.7	19
20		64	36	12	4.4	3.6	2.7	20
21		65	34	9.6	4.2	3.6	2.7	21
22		68	32	6.6	4.1	3.5	2.7	22
23		68	32	5.9	4.4	3.7	2.7	23
24		63	34	5.9	4.6	3.6	2.8	24
25		59	36	5.4	4.4	3.6	2.8	25
26		55	39	5.4	4.1	3.6	2.8	26
27		54	41	5.2	4.1	3.5	2.8	27
28		50	42	4.8	4.1	3.5	2.7	28
29		50	40	4.7	4.4	3.5	2.7	29
30		58	38	4.6	4.1	3.5	2.9	30
31			35		4.0	3.5		31
Mean		53.4E	51.1	17.4	4.7	4.1	3.0	Mean
Runoff In Acre-Feet		3180E	3140	1040	290	250	176	Runoff In Acre-Feet

* Beginning of Record
E Estimated

TABLE 30

SHIELDS CREEK ABOVE PEPPERDINE RANCH

Day	March	April	May	June	July	August	September	Day
1		3.4E*	11	10	8.2	6.7	5.2	1
2		3.4E	11	10	8.2	6.7	5.2	2
3		3.4E	12	10	8.2	6.7	5.2	3
4		3.4E	12	10	8.2	6.9	5.2	4
5		3.4	13	10	8.2	6.9	5.2	5
6		3.5	14	10	8.2	6.4	5.0	6
7		3.5	15	10	8.2	6.4	5.0	7
8		3.2	16	10	8.5	6.4	5.0	8
9		3.0	16	10	8.5	6.4	5.0	9
10		2.6	16	10	8.5	6.2	5.0	10
11		2.6	16	9.3	8.2	6.2	5.0	11
12		2.5	15	9.3	8.0	6.2	5.0	12
13		2.4	14	9.3	7.7	5.9	5.0	13
14		2.6	13	9.3	7.7	5.9	4.8	14
15		2.7	13	9.3	7.7	5.9	4.8	15
16		3.3	12	9.3	7.7	5.9	4.8	16
17		4.2	12	9.3	7.4	5.9	4.8	17
18		4.5	12	9.0	7.4	5.9	4.8	18
19		9.2	11	9.0	7.2	5.7	4.8	19
20		12	10	9.0	7.2	5.7	4.8	20
21		10	10	9.0	6.9	5.7	4.8	21
22		9.6	9.3	8.8	6.9	5.7	4.8	22
23		9.7	9.3	8.5	6.9	5.7	4.6	23
24		9.1	9.6	8.5	6.9	5.5	4.6	24
25		8.4	9.6	8.5	6.7	5.5	4.6	25
26		8.2	10	8.5	6.7	5.5	4.6	26
27		8.0	11	8.5	6.7	5.5	4.6	27
28		7.6	11	8.5	6.7	5.5	4.6	28
29		7.6	11	8.2	6.7	5.2	4.6	29
30		9.3	11	8.2	6.7	5.2	4.6	30
31			10		6.7	5.2		31
Mean		5.5E	12.1	9.2	7.5	6.0	4.9	Mean
Runoff In Acre-Feet		330E	745	550	463	367	290	Runoff In Acre-Feet

* Beginning of Record
E Estimated

TABLE 31

PARKER CREEK ABOVE HIGHWAY 395 NEAR ALTURAS

Day	March	April	May	June	July	August	September	Day
1								1
2								2
3								3
4								4
5								5
6								6
7								7
8								8
9								9
10								10
11								11
12								12
13								13
14								14
15			NO RECORD AVAILABLE FOR 1974 SEASON					15
16								16
17								17
18								18
19								19
20								20
21								21
22								22
23								23
24								24
25								25
26								26
27								27
28								28
29								29
30								30
31								31
Mean								Mean
Runoff In Acre-Feet								Runoff In Acre-Feet

Figure 13

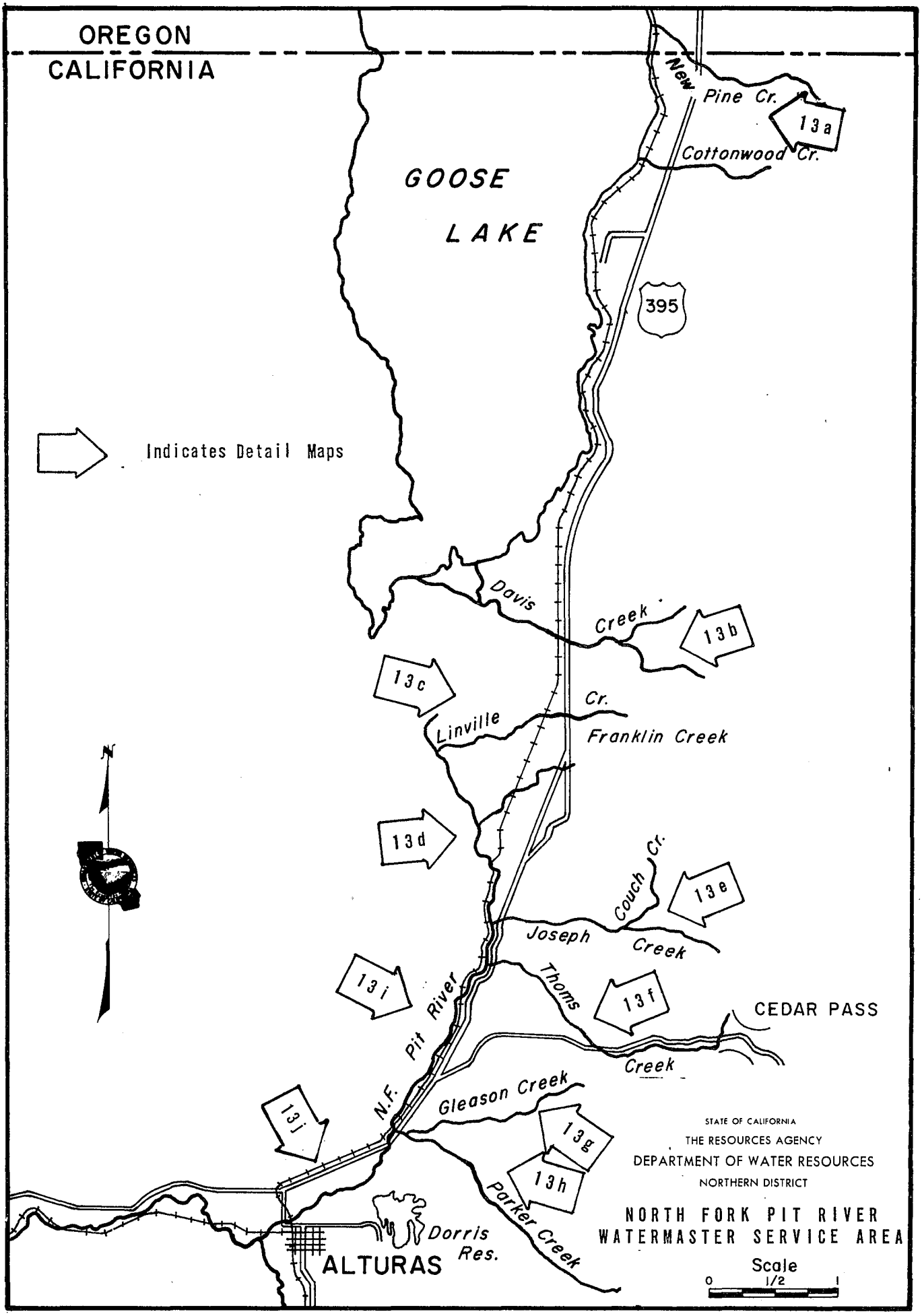
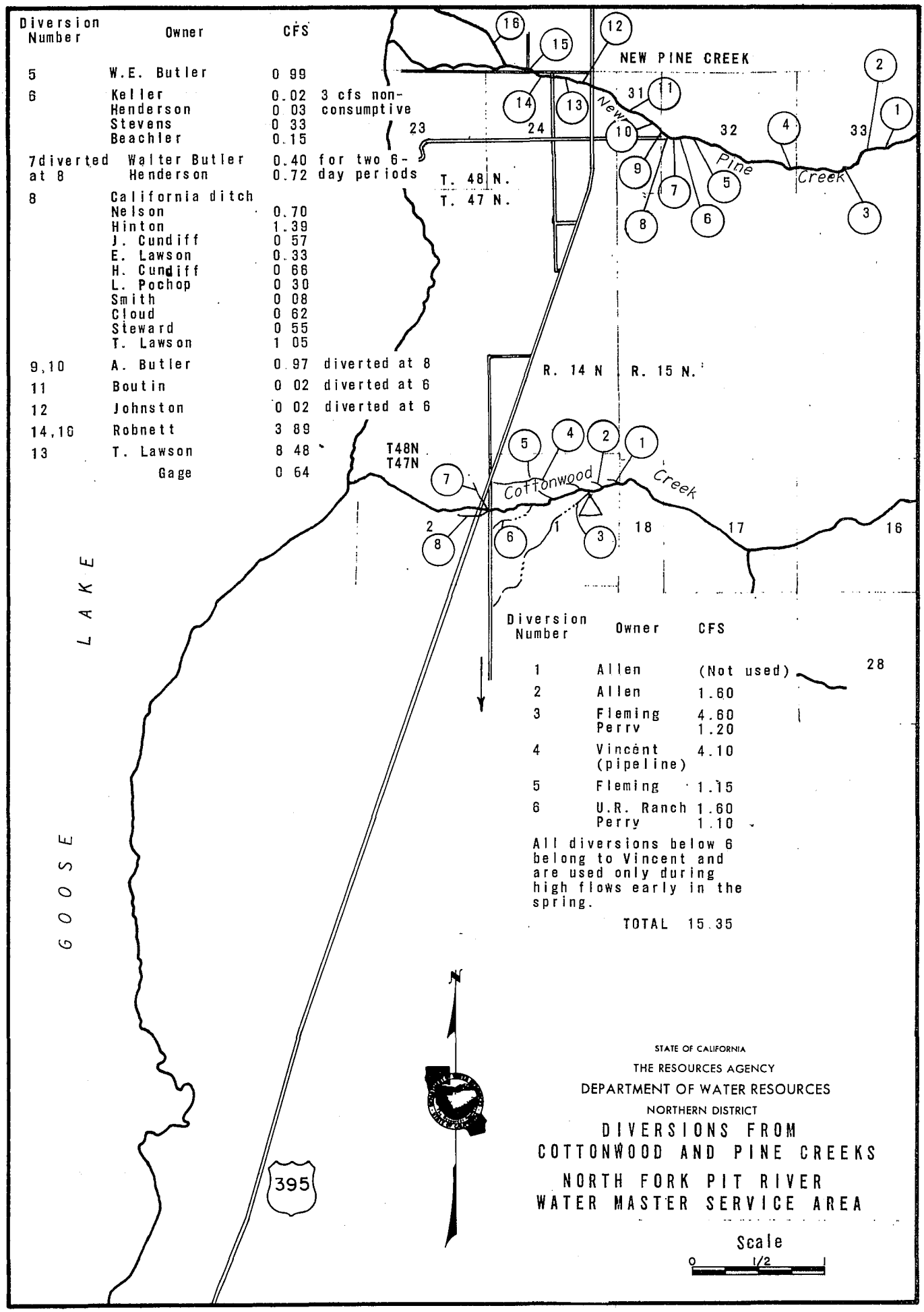
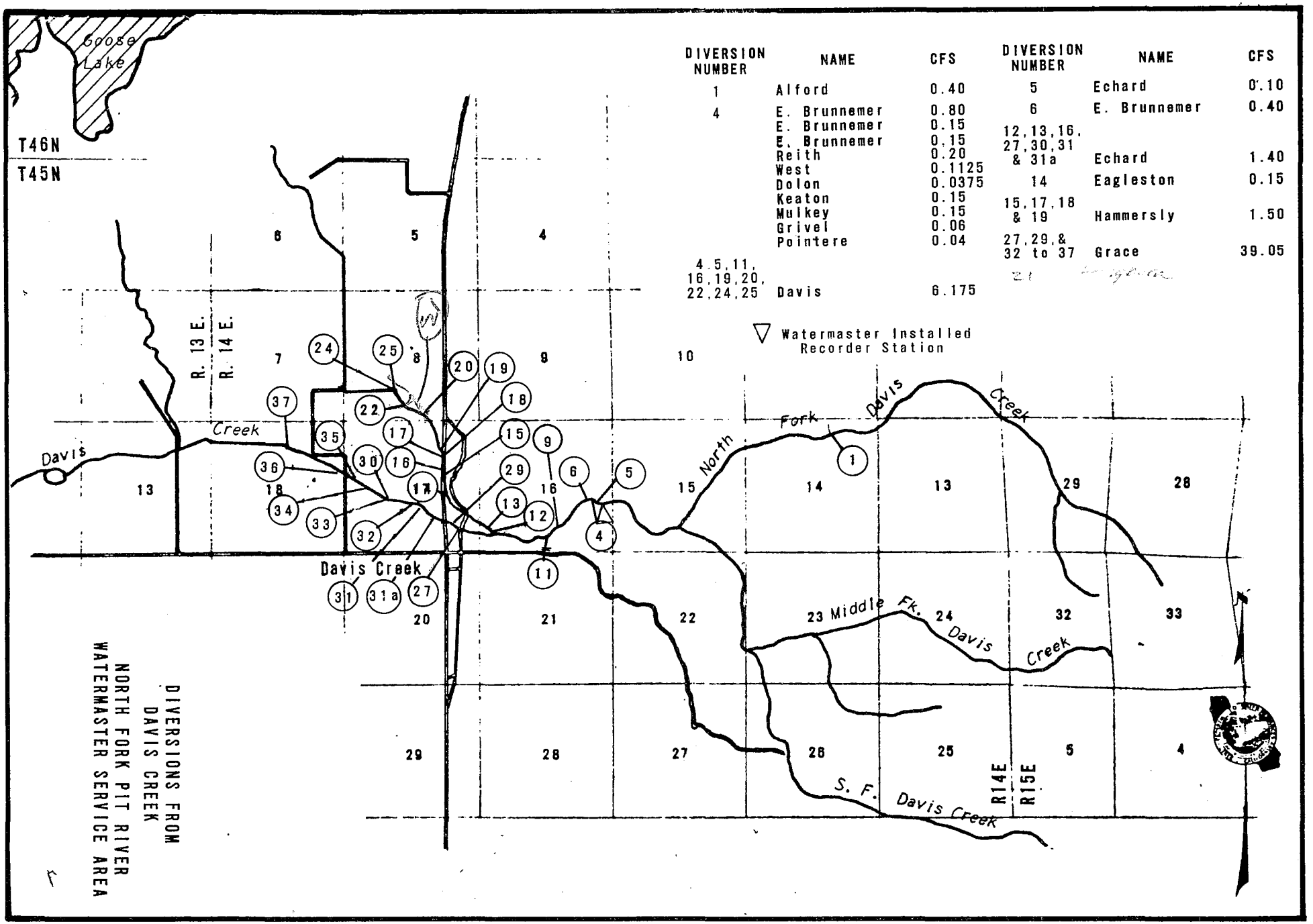

OREGON
CALIFORNIA
GOOSE
LAKE
New Pine Cr.
13a
Cottonwood Cr.
395
Indicates Detail Maps
Davis Creek
13b
13c
Linville Cr.
Franklin Creek
N
13d
Couch Cr.
13e
Joseph Creek
13i
Pit River
Thoms Creek
13f
CEDAR PASS
N.F.
Gleason Creek
13i
13g
13h
Parker Creek
Dorris Res.
ALTURAS
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
NORTH FORK PIT RIVER
WATERMASTER SERVICE AREA
Scale
0 1/2 1

Figure 13a


Diversion Number | Owner | CFS
5 | W.E. Butler | 0 99
6 | Keller | 0.02 | 3 cfs non-consumptive
Henderson | 0 03
Stevens | 0 33
Beachler | 0.15
7diverted at 8 | Walter Butler | 0.40 | for two 6-day periods
Henderson | 0.72
8 | California ditch
Nelson | 0.70
Hinton | 1.39
J. Cundiff | 0 57
E. Lawson | 0.33
H. Cundiff | 0 66
L. Pochop | 0 30
Smith | 0 08
Cloud | 0 62
Steward | 0 55
T. Lawson | 1 05
9,10 | A. Butler | 0.97 | diverted at 8
11 | Boutin | 0 02 | diverted at 6
12 | Johnston | 0 02 | diverted at 6
14,16 | Robnett | 3 89
13 | T. Lawson | 8 48
Gage | 0 64
NEW PINE CREEK
Newman
Pine Creek
Cottonwood Creek
T. 48 N.
T. 47 N.
R. 14 N
R. 15 N.
T48N
T47N
LAKE
GOOSE
395
Diversion Number | Owner | CFS
1 | Allen | (Not used)
2 | Allen | 1.60
3 | Fleming | 4.60
Perry | 1.20
4 | Vincent (pipeline) | 4.10
5 | Fleming | 1.15
6 | U.R. Ranch | 1.60
Perry | 1.10
All diversions below 6 belong to Vincent and are used only during high flows early in the spring.
TOTAL 15.35
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
COTTONWOOD AND PINE CREEKS
NORTH FORK PIT RIVER
WATER MASTER SERVICE AREA
Scale
0 1/2

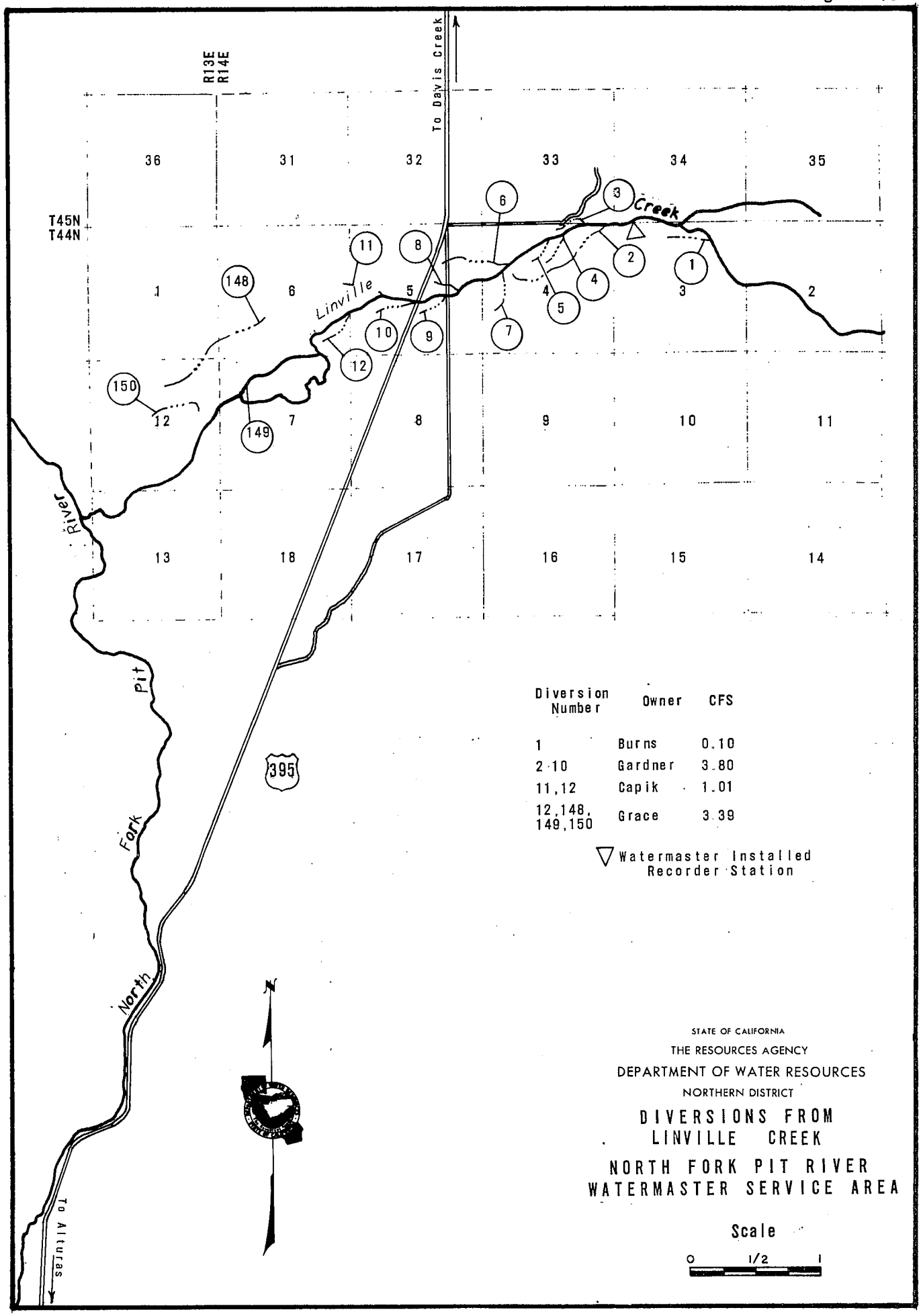


DIVERSION NUMBER	NAME	CFS
1	Alford	0.40
4	E. Brunnemer	0.80
	E. Brunnemer	0.15
	E. Brunnemer	0.15
	Reith	0.20
	West	0.1125
	Dolon	0.0375
	Keaton	0.15
	Mulkey	0.15
	Grivel	0.06
	Pointere	0.04
4,5,11, 16,19,20, 22,24,25	Davis	6.175

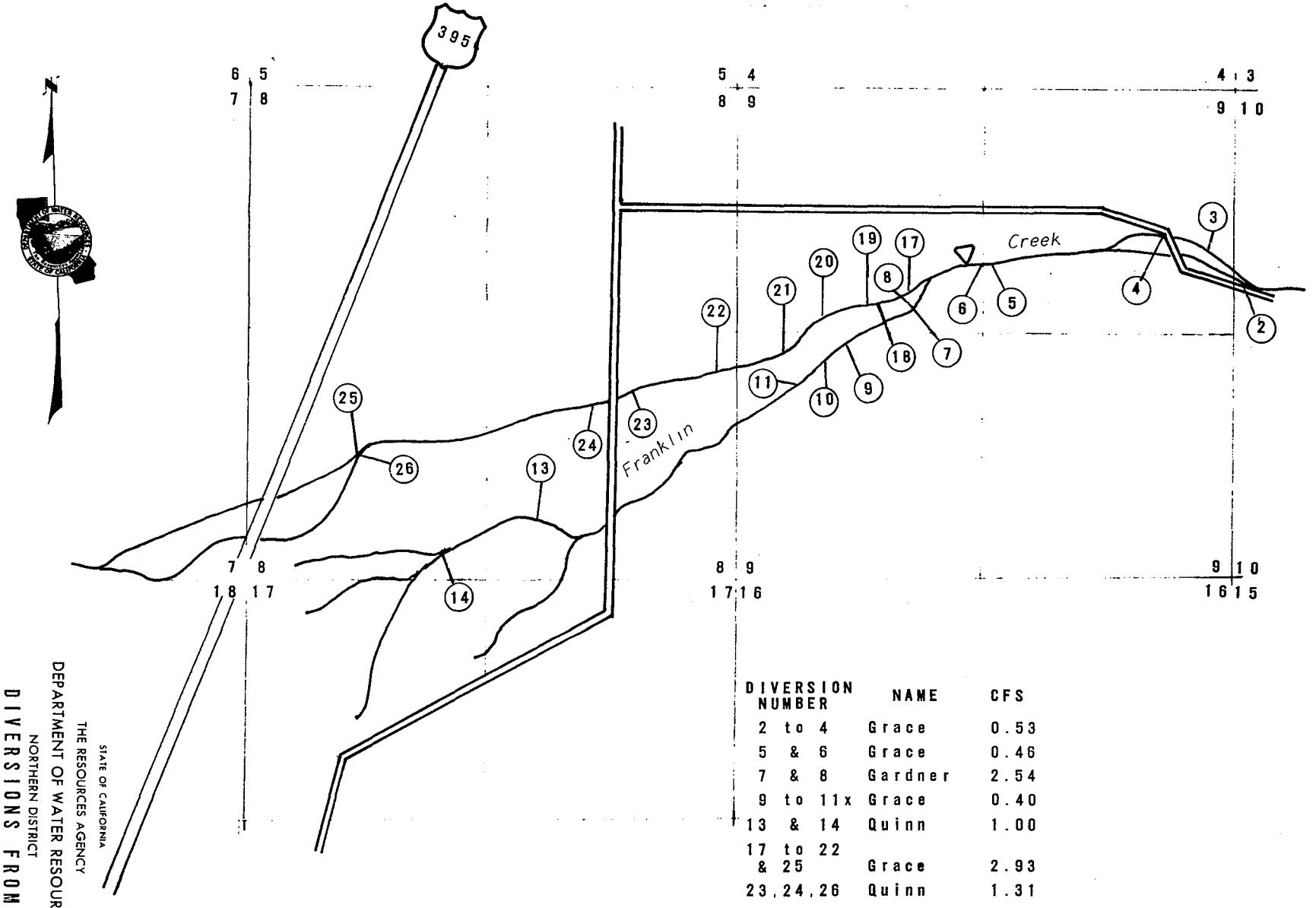
DIVERSION NUMBER	NAME	CFS
5	Echard	0.10
6	E. Brunnemer	0.40
12,13,16, 27,30,31 & 31a	Echard	1.40
14	Eagleston	0.15
15,17,18 & 19	Hammersly	1.50
27,29,& 32 to 37	Grace	39.05

Figure 13b

Figure 13c


R13E
R14E
To Davis Creek
36
31
32
33
34
35
T45N
T44N
1
6
5
4
3
2
7
8
9
10
11
12
13
18
17
16
15
14
148
149
150
Linville
Creek
River
Pit
Fork
North
395
To Alturas
Diversion Number
Owner
CFS
1
Burns
0.10
2-10
Gardner
3.80
11,12
Capik
1.01
12,148, 149,150
Grace
3.39
Watermaster Installed Recorder Station
N
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
LINVILLE CREEK
NORTH FORK PIT RIVER
WATERMASTER SERVICE AREA
Scale
0
1/2
1

T44N.,R14E M.D.B. & M.



DIVERSION NUMBER	NAME	CFS
2 to 4	Grace	0.53
5 & 6	Grace	0.46
7 & 8	Gardner	2.54
9 to 11x	Grace	0.40
13 & 14	Quinn	1.00
17 to 22 & 25	Grace	2.93
23,24,26	Quinn	1.31

△ Watermaster Installed Recorder Station.

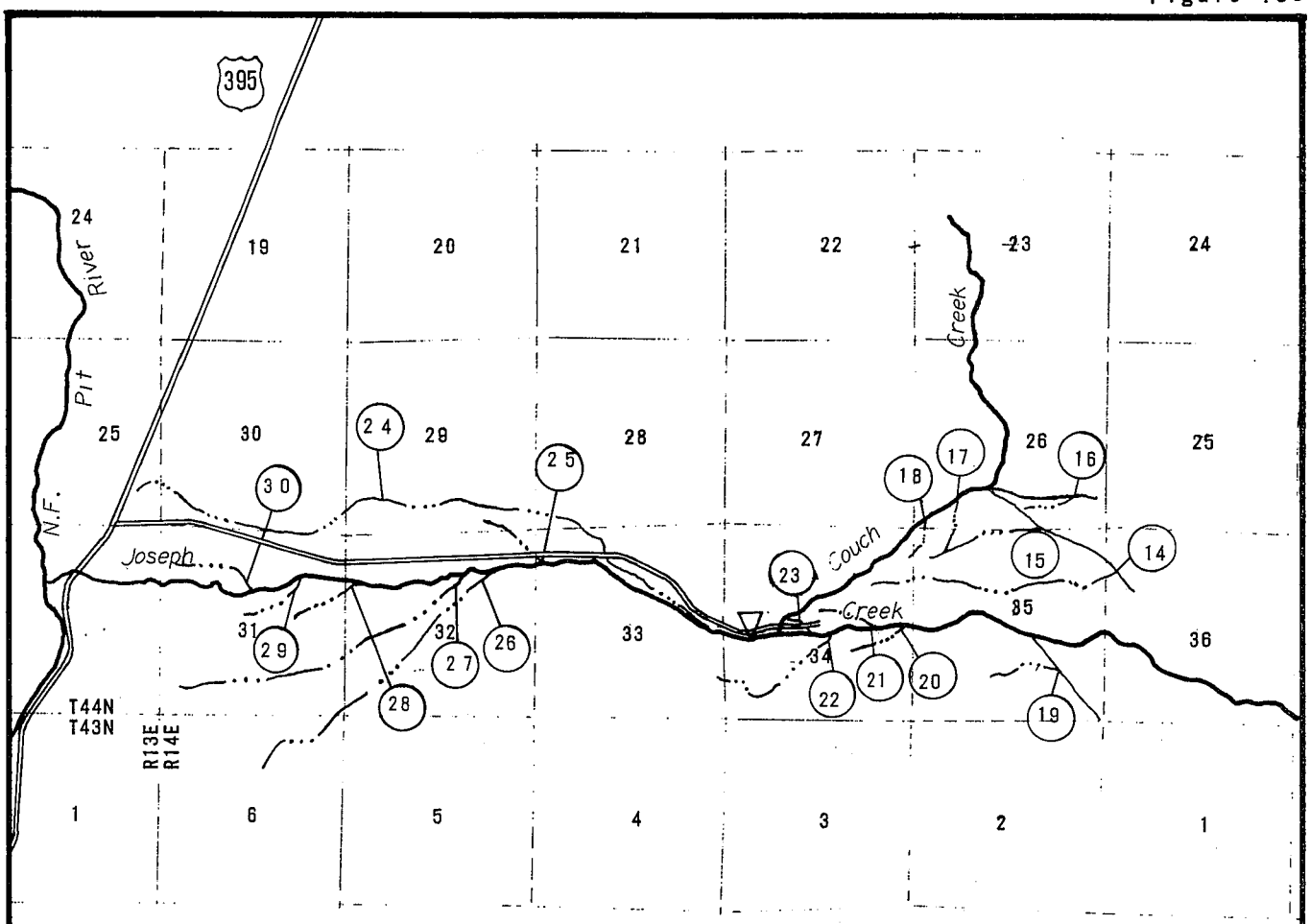
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM
FRANKLIN CREEK

NORTH FORK PIT RIVER
WATERMASTER SERVICE AREA

Figure 13d

Figure 13e



Diversion Number	Owner	CFS	
14 to 18	U.S. Forest Service	1.15	(net consumptive use)
19	McQueen		
20 to 24	Rice	1.28	(net consumptive use)
22	Russell	0.40	
24	Russell	0.50	
24,25	Franks	2.53	
	Rice	0.87	
26	U.S. Indian Service		
27 to 30	Franks	3.55	
	TOTAL	11.98	
△	Watermaster Installed Recorder Station		

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM JOSEPH CREEK

NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

Scale

0 1/2 1

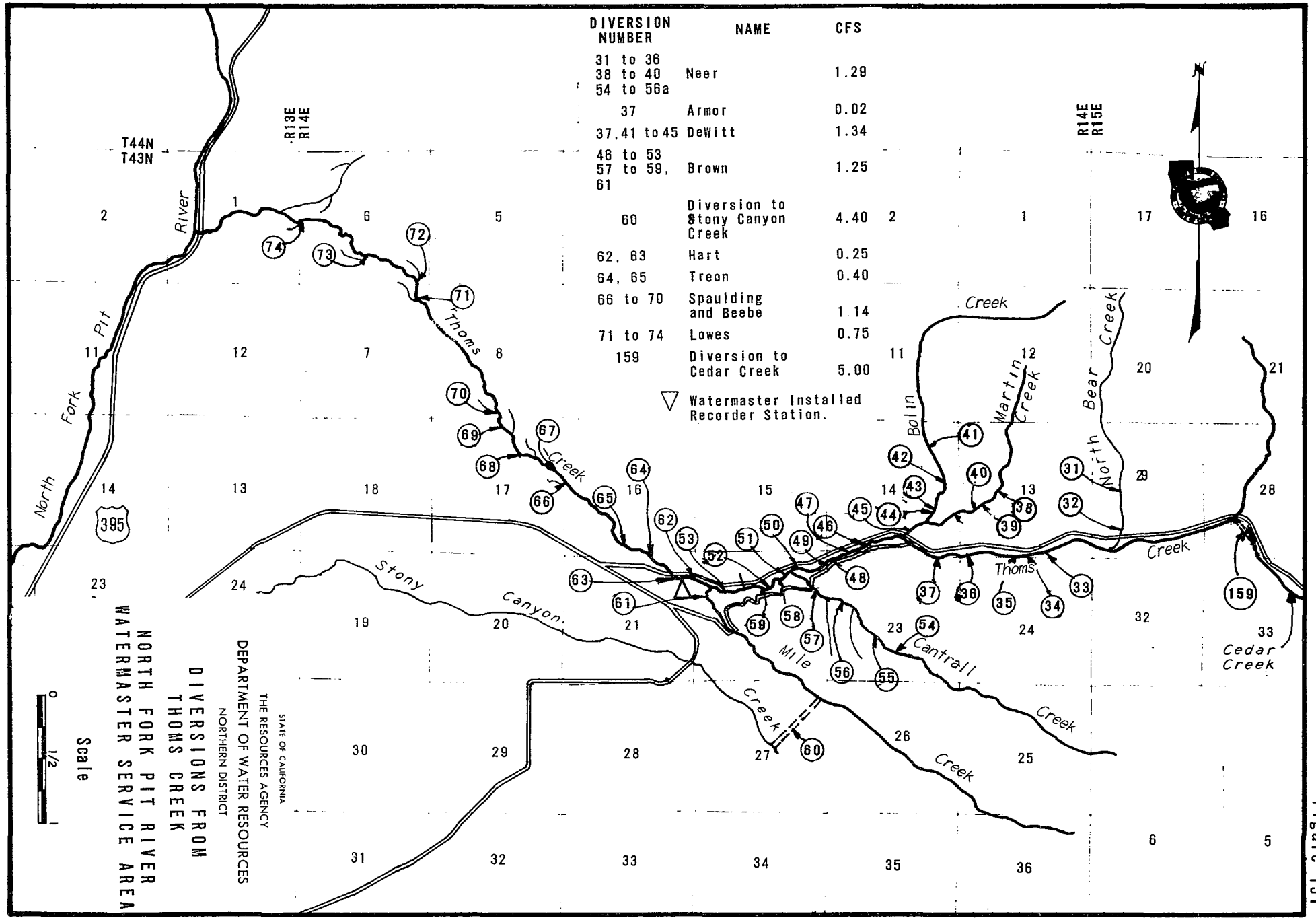
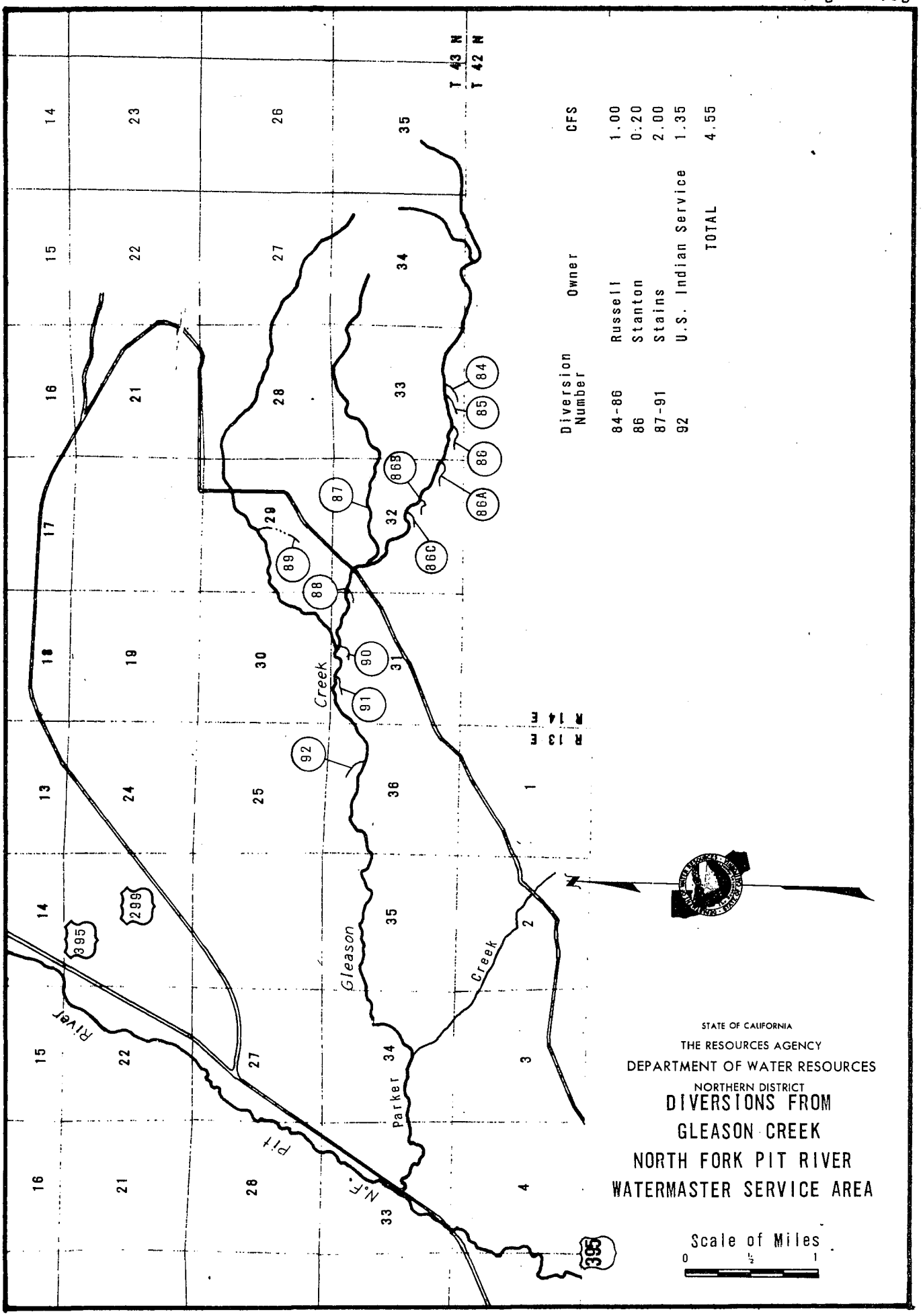

DIVERSION NUMBER
NAME
CFS
31 to 36, 38 to 40, 54 to 56a
Neer
1.29
37
Armor
0.02
37,41 to 45
DeWitt
1.34
46 to 53, 57 to 59, 61
Brown
1.25
60
Diversion to Stony Canyon Creek
4.40
62, 63
Hart
0.25
64, 65
Treon
0.40
66 to 70
Spaulding and Beebe
1.14
71 to 74
Lowes
0.75
159
Diversion to Cedar Creek
5.00
Watermaster Installed Recorder Station.
T44N
T43N
R13E
R14E
R14E
R15E
North Fork Pit River
Thoms Creek
Stony Canyon Creek
Mile Creek
Cantrall Creek
Bolin Creek
Martin Creek
Bear Creek
North Bear Creek
Cedar Creek
395
Scale
0
1/2
1
NORTH FORK PIT RIVER
WATERMASTER SERVICE AREA
DIVERSIONS FROM
THOMS CREEK
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
THE RESOURCES AGENCY
STATE OF CALIFORNIA

Figure 13f

Figure 13g


T 43 N
T 42 N
R 13 E
R 14 E
Diversion Number
Owner
CFS
84-86 Russell 1.00
86 Stanton 0.20
87-91 Stains 2.00
92 U.S. Indian Service 1.35
TOTAL 4.55
Gleason Creek
Parker Creek
N.F. Pit River
395
299
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
GLEASON CREEK
NORTH FORK PIT RIVER
WATERMASTER SERVICE AREA
Scale of Miles
0
1

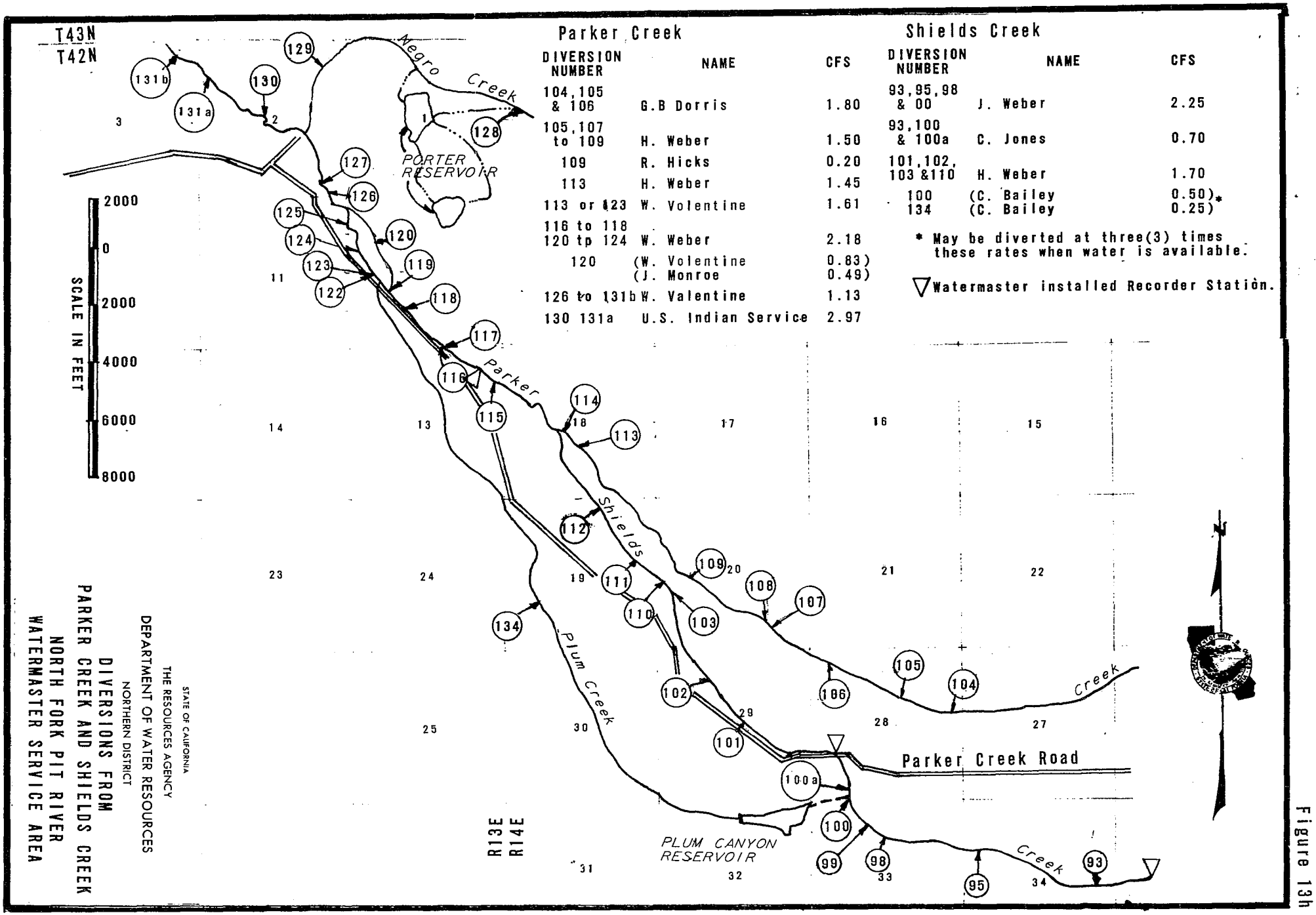

T43N
T42N
R13E
R14E
Negro Creek
PORTER RESERVOIR
Parker
Shields
Plum Creek
PLUM CANYON RESERVOIR
Parker Creek Road
Creek
SCALE IN FEET
2000
0
2000
4000
6000
8000
Parker Creek
DIVERSION NUMBER | NAME | CFS
104,105 & 106 | G.B Dorris | 1.80
105,107 to 109 | H. Weber | 1.50
109 | R. Hicks | 0.20
113 | H. Weber | 1.45
113 or 123 | W. Volentine | 1.61
116 to 118 120 tp 124 | W. Weber | 2.18
120 | (W. Volentine (J. Monroe | 0.83) 0.49)
126 to 131b | W. Valentine | 1.13
130 131a | U.S. Indian Service | 2.97
Shields Creek
DIVERSION NUMBER | NAME | CFS
93,95,98 & 00 | J. Weber | 2.25
93,100 & 100a | C. Jones | 0.70
101,102, 103 &110 | H. Weber | 1.70
100 | (C. Bailey | 0.50)*
134 | (C. Bailey | 0.25)*
* May be diverted at three(3) times these rates when water is available.
Watermaster installed Recorder Station.
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
PARKER CREEK AND SHIELDS CREEK
NORTH FORK PIT RIVER
WATERMASTER SERVICE AREA

Figure 13h

Figure 13i

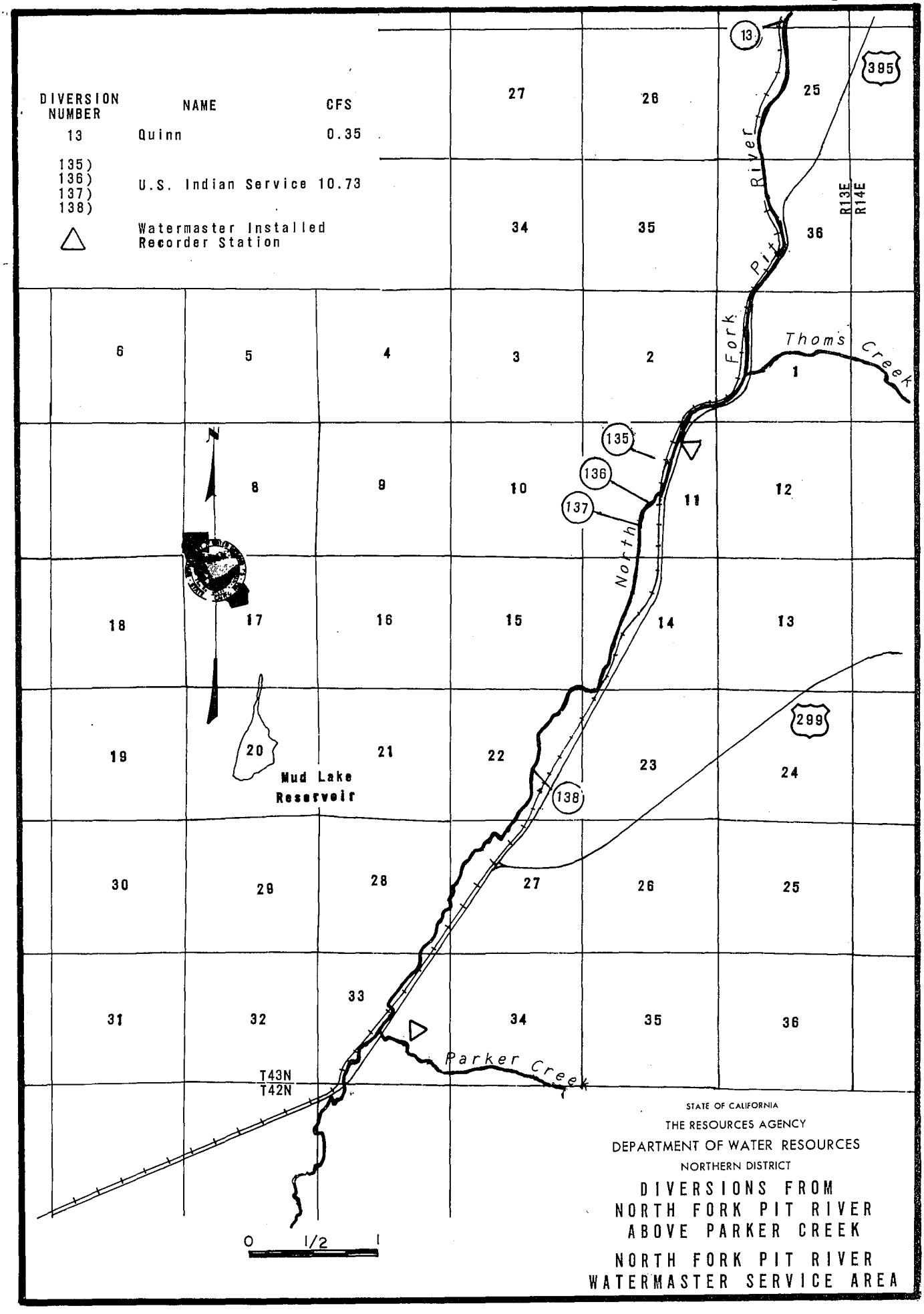
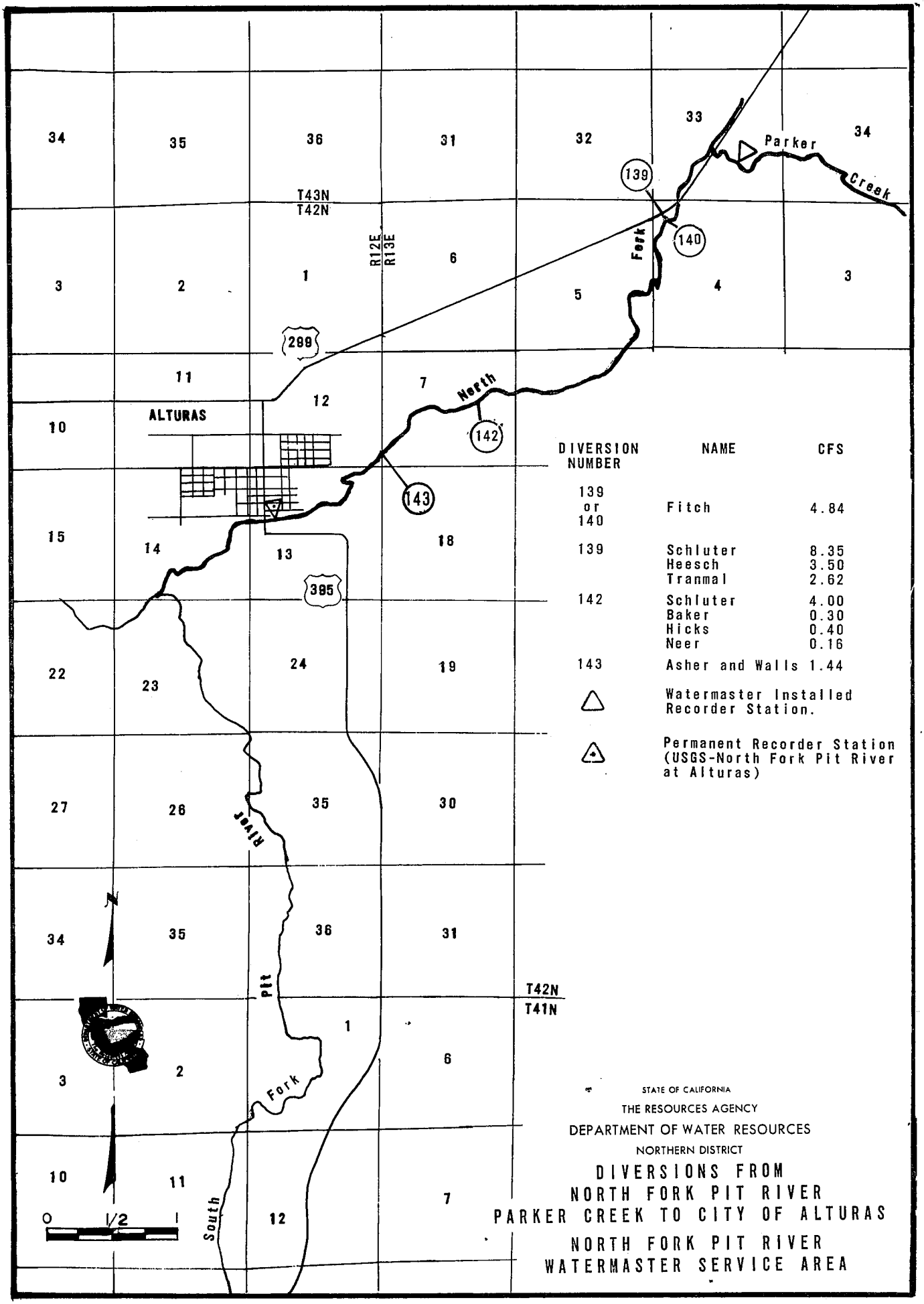

DIVERSION NUMBER
NAME
CFS
13 Quinn 0.35
135)
136)
137)
138) U.S. Indian Service 10.73
Watermaster Installed Recorder Station
13
395
299
135
136
137
138
North Fork Pit River
Thoms Creek
Parker Creek
Mud Lake Reservoir
R13E
R14E
T43N
T42N
0 1/2 1
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM NORTH FORK PIT RIVER ABOVE PARKER CREEK
NORTH FORK PIT RIVER WATERMASTER SERVICE AREA

Figure 13j


34
35
36
31
32
33
34
T43N
T42N
R12E
R13E
3
2
1
6
5
4
3
Parker
Creek
139
140
Fork
299
11
12
7
North
ALTURAS
10
142
143
15
14
13
18
395
22
23
24
19
27
26
35
30
RIVER
34
35
36
31
Pit
T42N
T41N
1
3
2
6
Fork
10
11
7
South
12
0
1/2
1
N
DIVERSION NUMBER
NAME
CFS
139 or 140
Fitch
4.84
139
Schluter
8.35
Heesch
3.50
Tranmal
2.62
142
Schluter
4.00
Baker
0.30
Hicks
0.40
Neer
0.16
143
Asher and Walls
1.44
Watermaster Installed Recorder Station.
Permanent Recorder Station (USGS-North Fork Pit River at Alturas)
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
NORTH FORK PIT RIVER
PARKER CREEK TO CITY OF ALTURAS
NORTH FORK PIT RIVER
WATERMASTER SERVICE AREA

Shackleford Creek Watermaster Service Area

The Shackleford Creek service area is located in western Siskiyou County near the town of Fort Jones in Scott Valley. The major sources of water supply for this service area are Shackleford Creek, which flows through the central part of Quartz Valley, and its tributary, Mill Creek, which rises east of the headwaters of Shackleford Creek. Evans Creek, a small tributary to Mill Creek, enters from the south.

The service area encompasses the Quartz Valley region of Scott Valley and includes the entire agricultural area within the Shackleford Creek Basin. It is about 2 miles wide by 6 miles long with the main axis and drainage running from south to north. Elevations on the agricultural area range from about 3,100 feet at the south to about 2,650 feet at the confluence of Shackleford Creek and Scott River.

A map of the Shackleford Creek stream system is presented as Figure 14, page 101.

Basis of Service

The Shackleford Creek watermaster service area was created on November 6, 1950. Water is distributed under the provisions of a statutory adjudication which resulted in Decree No. 13775, Siskiyou County Superior Court, dated April 3, 1950.

The allotments are defined in four separate schedules. The Upper Shackleford Creek Group and Lower Shackleford Creek Group each have seven priority classes and the Upper Mill Creek Group and Lower Mill Creek Group each have three priority classes.

Along with these schedules of allotments during the irrigation season, the decree defines two storage rights upstream of all other diversions. This stored water is released late in the irrigation season and commingled with the natural flow of Shackleford Creek for use by the owners.

There are presently 42 water users in the service area with allotments totaling 64.73 cfs.

Water Supply

The water supply for Shackleford Creek is derived from snowmelt runoff, springs and seepage, and supplemental stored water released from Cliff Lake and Campbell Lake. These lakes are located near the headwaters of Shackleford Creek.

The watershed of the Shackleford Creek stream system contains about 31 square miles, located in the heavily forested, steep, mountainous terrain of the northeasterly slopes of the Salmon Mountains. It varies in elevation from about 7,000 feet along its west rim to about 3,000 feet at the foot of the slopes bordering Quartz Valley. Snowmelt runoff is normally sufficient to supply all demands until the middle of July. The supply then usually decreases until the first part of August when water is released from Cliff and Campbell Lakes to maintain sufficient flow for second priority allotments in the Shackleford Ditch.

Method of Distribution

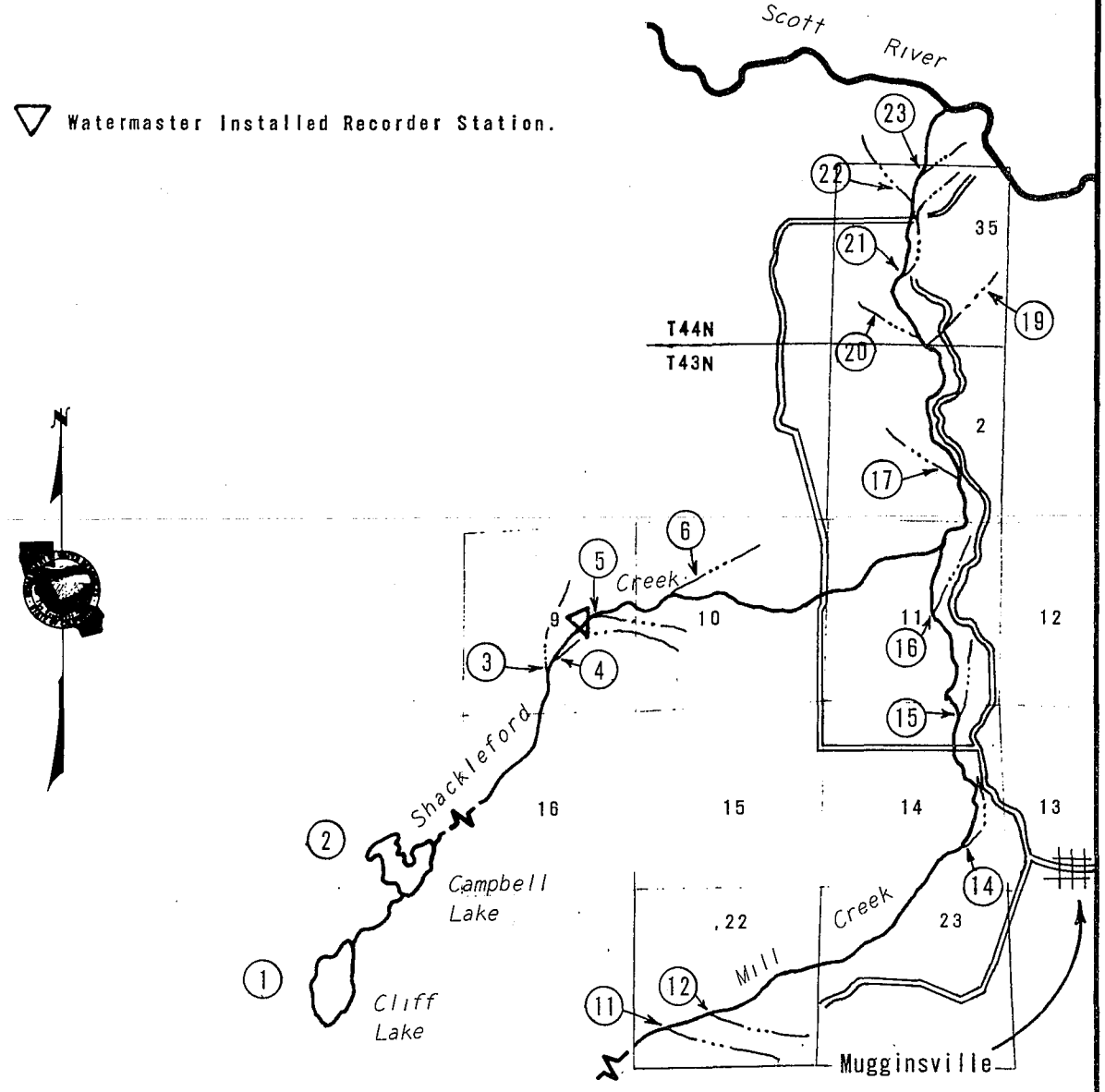
Irrigation is accomplished primarily by wild flooding of permanent pasture and alfalfa fields. Water is distributed by ditches and laterals to the places of use. Shackleford Ditch, the largest of these ditches, has a length of about 6 miles and a capacity of about 12 cubic feet per second.

1974 Distribution

Watermaster service began June 1 in the Shackleford Creek service area and

continued until September 30, with John A. Nolan, Water Resources Technician II, as watermaster.

The available water supply was excellent throughout the entire season. The Shackleford Ditch (Diversion 4) suffered considerable damage from the severe storms in January 1974 and was not repaired until late September. As a result, the large second priority water right allotment for this ditch was available for lower priority water right owners. Another factor for the excellent late season water supply was that the Department of Water Resources' Division of Safety of Dams required that the dam at Campbell Lake (Diversion 2) be improved. The owners of this storage right had to drain the lake to make the necessary repairs, thus making this water available for lower priority water right owners.



Diversion Number	Owner	CFS	
1	Cliff Lake		
2	Campbell Lake		
3	R. Eastlick ditch	3.5	
4	Shackleford ditch	11.00	
5	Howard-Jones ditch	5.20	
6	Camp ditch	5.00	
11	Eastlick ditch	10.62	
12	Couch ditch	.62	out of 11 or 12
14	China ditch	1.40	
15	Dangel ditch	0.50	
16	Denny Bar ditch	0.50	
17	Freita ditch	6.60	
19	Hammond-Crawford-Lewis ditch	3.60	plus rights not in service area
20	Burton-Meanikes ditch	5.80	
22	Burton W.	1.20	in either 22 or23
23	Burton E.		

T43N., R10W MDB&M

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM SHACKLEFORD CREEK AND MILL CREEK

SHACKLEFORD CREEK WATERMASTER SERVICE AREA

Scale
0 1/2 1

Shasta River Watermaster Service Area

The Shasta River service area is situated in the central part of Siskiyou County, south and east of the town of Yreka.

The source of water supply is Shasta River and its several tributaries. The upper reaches of the service area are served by two groups of tributaries. One group, comprising Boles, Beaughan, Carrick, and Jackson Creeks, rises on the northwestern slopes of Mount Shasta. The other group, consisting of Dale and Eddy Creeks, and Shasta River west of U. S. Highway 99, rises on the eastern slopes of the Trinity Mountains. All these streams join the main stem Shasta River above Dwinnell Reservoir near the town of Weed. As the Shasta River flows northward from Dwinnell Reservoir to its confluence with the Klamath River, north of Yreka, it is joined by three major tributaries. Parks Creek, rising on the eastern slopes of the Trinity Mountains, enters from the west near the town of Gazelle. Big Springs Creek, from Big Springs Lake, enters from the east about a mile below Parks Creek. Little Shasta River, rising on the western slopes of the mountainous area between Butte Valley and Shasta Valley, enters from the east near the town of Montague.

The place of use is in Shasta Valley which is approximately 30 miles long and 30 miles wide. The valley has numerous small, coneshaped, volcanic hillocks scattered throughout its central portion that produce the effect of dividing the area into a number of distinctively separate parts. Because of these formations only about 141,000 acres of the approximately 507,000 acres within the valley are irrigable. The valley floor elevation averages approximately 3,000 feet.

Maps of the major stream systems in the Shasta River service area are presented as Figures 15 through 15i, pages 111 through 120.

Basis of Service

The Shasta River watermaster service area was created on March 1, 1933. The appropriative water rights on this stream system were determined by a statutory adjudication which resulted in Decree No. 7035, Siskiyou County Superior Court, dated December 29, 1932.

The decree describes the water rights of the entire stream system in alphabetical order of users. The rights supervised by the watermaster are broken down into eight separate schedules. These are: Shasta River above its confluence with Big Springs Creek, 43 priorities; Boles Creek, 20 priorities; Beaughan Creek, 5 priorities; Jackson Creek, 7 priorities; Carrick Creek, 13 priorities; Parks Creek, 25 priorities; Shasta River below its confluence with Big Springs Creek and Big Springs Creek and tributaries, 29 priorities; and Little Shasta River, 7 priorities. Additional schedules include Willow Creek, Yreka Creek, and miscellaneous independent springs, gulches, and sloughs, but these are not included in the service area.

Montague Water Conservation District has appropriative rights for storage of Shasta River and Parks Creek water in Dwinnell Reservoir (Lake Shastina). By agreement with the District, five nearby downstream users receive water from storage in lieu of their decreed continuous flow allotments. The watermaster handles the reservoir releases for these users as well as for the district itself.

A peculiarity of the Shasta River decree is that it defines only appropriative rights and excludes a number of riparian users on the lower Shasta River. Owners of these rights are not subject to watermaster supervision, causing considerable distribution problems during seasons of short water supply.

There are presently 110 water users in the service area with allotments totaling 602.322 cubic feet per second.

Water Supply

The water supply for Shasta Valley is derived from snowmelt runoff, springs and underground flow, and occasional summer thundershowers. In several portions of the stream system the springs from underground flow are adequate to supply most allotments throughout the season. Much of the underground flow is derived from the northern slopes of Mount Shasta, which rises to an elevation of 14,162 feet at the south end of Shasta Valley. Although the snowpack on Mount Shasta is usually heavy, there is negligible surface runoff.

Parks Creek, Upper Shasta River, and Little Shasta River derive a major portion of their water supply from snowmelt runoff. This flow is usually adequate to supply all allotments until the middle of May.

Beaughan Creek, Carrick Creek, Shasta River from Boles Creek to Dwinnell Reservoir, Big Springs, and Lower Shasta River have enough runoff from springs to supply a large percentage of the allotments throughout the season.

Records of the daily mean discharge at several stream gaging stations in the Shasta River service area are presented in Tables 32, 33, 35, 36, 37 and 38; pages 107, 109, and 110. The daily mean storage in Dwinnell Reservoir is presented in Table 34, page 108.

Method of Distribution

Irrigation of permanent pasture and alfalfa lands is accomplished principally by wild flooding. Much of the return water is recaptured and used on lower pasture lands. Sprinkling systems are used for irrigating some alfalfa and grain lands.

Water is diverted primarily by diversion dams and then conveyed by ditch or canal to the place of use. The largest and longest canal in the area is the Edson-Foulke Yreka Ditch, which has a capacity of about 60 cubic feet per second and a length of about 14 miles. Water is also supplied into ditch systems by pumped diversions, the three largest belonging to two irrigation districts and a private water users association. Some riparian lands are also served by pump diversions.

Many privately owned storage reservoirs exist in the area. Water storage from these reservoirs is used to supplement continuous-flow allotments.

Because of their large rights, close surveillance of two public agencies, Grenada and Big Springs Irrigation Districts, and the privately operated Shasta River Water Users Association, is very important, particularly in dry years. Control of releases from Montague Water Conservation District's Dwinnell Reservoir (Lake Shastina) is another responsibility of the watermaster. This includes measurement of deliveries of stored water to users just below the dam.

1974 Distribution

John A. Nolan, Water Resources Technician II, was watermaster in the Shasta River service area from April 1 through September 30.

The available water supply in the service area was generally above average during the season.

Parks Creek. The flow in Parks Creek was sufficient to supply all allotments (25 priorities) until mid-July. Some water continued to be diverted into the Yreka Ditch until early September. The first priority allotments of 6 cfs were available throughout the entire irrigation season.

Water users downstream from the lowest first priority diversion received a portion of their allotments during the latter part of the season from return flow and from water rising in the gravel streambed.

Upper Shasta River. During early spring, enough water was available to satisfy all allotments (eight priorities). As the flow decreased, the following levels of priority allotments were met: August 5 - all of fourth priority; August 19 - all of third priority (Yreka Ditch main allotment); and September 12 (the seasonable low) - 25 percent of third priority.

Shasta River from Boles Creek to Dwinnell Reservoir. Boles Creek and this portion of the Shasta River were operated as one stream, under a long-standing oral agreement among the water right owners. The water is distributed on a correlative, equal-priority basis. Adequate water was available to satisfy 100 percent of all allotments throughout the entire season.

Beaughan Creek. The flow of Beaughan Creek was sufficient to satisfy most demands (five priorities) for the entire season. The creek is routed through a mill pond owned by the International Paper Company which uses approximately 35 percent of the flow for industrial purposes.

Carrick Creek. The water supply in Carrick Creek was adequate to satisfy all allotments (13 priorities) during the entire irrigation season.

Little Shasta River. Enough water was available in Little Shasta River to satisfy all fifth priority allotments (seven priorities) until mid-July, at which time full regulation became necessary to adequately distribute this priority. The flow continued to decrease to approximately 50 percent of the fourth priority allotments by late August. It then stayed constant for the remainder of the season.

The daily mean discharge of Little Shasta River near Montague is presented in Table 36, page 109. This runoff is augmented by rising water along the river channel, and by substantial inflow from Cleland Springs, a tributary approximately 2 miles below the stream gaging station. Therefore, considerably more water was available for distribution at downstream diversion points than is reported in the discharge table.

Dwinnell Reservoir. Releases from Dwinnell Reservoir to the Montague Water Conservation District, commenced on April 21 and continued into October. Reservoir operation data for the 1974 season are shown in Tables 34 and 35, pages 108 and 109.

By agreement with the Montague Water Conservation District, water users on Shasta River below Dwinnell Reservoir received stored water from the reservoir on demand in lieu of their natural flow rights. The agreement allotment totals and the amount delivered to each user this season are shown in the tabulation on the following page.

Big Springs. The flow of Big Springs was sufficient to satisfy approximately 50 percent of third priority allotments through the first half of the season. As usual during July, August, and September, the flow in Big Springs increased due to snowmelt from higher elevations on Mount Shasta, percolating into the ground and reappearing as surface flow at Big Springs Lake. As a result, the Big Springs Irrigation District, a third priority water right owner, was able to pump its full allotment from late July through the remainder of the season.

Lower Shasta River. The water supply in Lower Shasta River was sufficient to satisfy all allotments (29 priorities) during the entire season.

DELIVERIES TO NATURAL FLOW WATER RIGHT OWNERS
BELOW DWINNELL RESERVOIR - 1974

Name of Water Right Owner	Allotment in Acre-Feet	Allotment Delivered From Dwinnell Reservoir Acre-Feet	% of Allotment
Flying L Ranch	198	-0-	-0-
Frank Ayers	464	330	71.1
J. N. Taylor	1,200	1,200	100
Lake Shastina Properties, Inc.			
Hole-in-the-Ground Ranch	596	330	55.4
Seldom Seen Ranch	924	590	63.8
Totals	3,382	2,450	72.4

SHASTA RIVER WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 32

SHASTA RIVER AT EDGEWOOD

Day	March	April	May	June	July	August	September	Day
1					78	25	19	1
2					71	27	19	2
3					64	27	17	3
4					61	25	17	4
5					59	35	15	5
6					59	46	13	6
7					58	34	12	7
8					69	31	15	8
9					71	29	15	9
10					69	28	17	10
11					64	27	17	11
12					58	27	19	12
13					53	23	19	13
14					51	23	19	14
15					50	23	19	15
16					50	20	19	16
17					45	20	20	17
18					41	20	19	18
19					40	21	19	19
20					40	21	19	20
21					39	20	19	21
22					38	20	20	22
23					35	21	19	23
24				120*	35	21	19	24
25				109	33	21	17	25
26				99	50	20	17	26
27				91	64	19	17	27
28				89	42	19	17	28
29				78	33	19	17	29
30				78	30	19	17	30
31					26	19		31
Mean				94.8	50.8	24.2	17.5	Mean
Runoff In Acre-Feet				1320	3130	1490	1040	Runoff In Acre-Feet

* Beginning of Record

TABLE 33

PARKS CREEK ABOVE EDSON-FOULKE YREKA DITCH

Day	March	April	May	June	July	August	September	Day
1				103	48	22	8.4	1
2				107	48	22	8.0	2
3				110	46	21	7.8	3
4				105	46	21	7.2	4
5				105	45	24	7.2	5
6				104	45	24	7.2	6
7				99	44	21	7.0	7
8				91	46	21	7.0	8
9				93	46	20	7.0	9
10				99	47	19	7.0	10
11				104	42	18	7.0	11
12				103	41	18	7.0	12
13				102	39	17	7.0	13
14				101	38	17	7.0	14
15				95	37	17	7.0	15
16				91	36	16	6.6	16
17				90	34	15	6.6	17
18				90	34	15	6.6	18
19				95	33	15	6.6	19
20				88	30	10	6.6	20
21				81	29	8.9	6.6	21
22			69*	80	29	8.0	6.6	22
23			80	77	28	8.0	6.6	23
24			88	71	27	7.8	6.1	24
25			102	64	26	7.8	6.1	25
26			109	58	31	7.2	6.1	26
27			114	56	33	7.2	6.1**	27
28			108	54	27	7.0		28
29			104	52	25	7.2		29
30			101	50	22	8.9		30
31			98		22	8.4		31
Mean			97.3	87.3	36.2	14.8	6.9	Mean
Runoff In Acre-Feet			1930	5190	2230	910	370	Runoff In Acre-Feet

* Beginning of Record
** End of Record

SHASTA RIVER WATERMASTER SERVICE AREA
October 1, 1973 through September 30, 1974 (in acre-feet)

TABLE 34
DAILY MEAN STORAGE IN DWINNELL RESERVOIR

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Day
1	6,640	9,630	22,620	37,220	41,980	46,100	49,570	50,340	48,940	47,500	40,360	32,160	1
2	6,610	9,730	22,840	37,300	41,950	46,780	50,200	50,420	48,940	47,230	39,940	32,000	2
3	6,540	9,830	24,350	37,420	41,890	47,140	50,110	50,430	49,030	46,960	39,680	31,680	3
4	6,490	9,940	26,390	37,560	41,810	47,320	49,880	50,470	49,030	46,690	39,340	31,520	4
5	6,440	10,120	28,440	37,660	41,720	47,500	50,020	50,470	49,120	46,420	39,090	31,280	5
6	6,380	10,330	28,670	37,760	41,640	47,680	50,060	50,470	49,210	46,150	39,000	31,040	6
7	6,350	10,550	28,970	37,850	41,720	48,040	50,070	50,470	49,300	45,880	38,750	30,800	7
8	6,310	10,850	29,210	37,950	41,810	48,170	50,290	50,650	49,300	45,610	38,490	30,560	8
9	6,280	11,200	29,450	38,000	41,910	48,260	50,470	50,830	49,300	45,430	38,240	30,320	9
10	6,290	11,850	29,680	38,070	42,050	48,400	50,560	50,830	49,300	45,250	37,980	30,080	10
11	6,300	13,530	30,000	38,150	42,150	48,580	50,560	50,830	49,300	45,070	37,730	29,760	11
12	6,320	15,860	30,300	38,240	42,320	48,760	50,510	50,740	49,300	44,800	37,560	29,600	12
13	6,340	17,220	30,800	38,410	42,400	48,940	50,420	50,650	49,300	44,620	37,300	29,450	13
14	6,350	18,070	31,100	39,090	42,520	49,030	50,290	50,470	49,210	44,350	37,050	29,300	14
15	6,370	18,630	31,360	40,620	42,660	49,210	50,250	50,380	49,120	44,080	36,880	29,150	15
16	6,380	19,220	31,570	47,500	42,830	49,480	50,240	50,290	49,120	43,900	36,620	29,000	16
17	6,420	19,750	31,920	45,790	42,950	49,700	50,250	50,110	49,120	43,630	36,370	28,850	17
18	6,430	19,930	32,400	44,080	43,090	49,910	50,380	49,930	49,030	43,360	36,030	28,700	18
19	6,440	20,100	32,690	45,160	43,220	50,060	50,470	49,840	49,030	43,090	35,770	28,480	19
20	6,470	20,240	33,050	46,150	43,360	50,200	50,470	49,660	49,120	42,830	35,430	28,250	20
21	6,490	20,350	33,820	45,700	43,450	50,240	50,430	49,480	49,030	42,570	35,180	28,100	21
22	6,870	20,860	34,410	44,260	43,580	50,250	50,470	49,390	48,940	42,400	34,840	27,950	22
23	8,090	21,150	34,790	42,910	43,680	50,200	50,470	49,300	48,760	42,150	34,580	27,800	23
24	8,540	21,430	35,040	42,400	43,810	50,290	50,470	49,120	48,670	41,890	34,330	27,650	24
25	8,770	21,640	35,320	42,230	43,900	50,380	50,380	49,030	48,580	41,640	34,080	27,500	25
26	8,920	21,850	35,570	42,180	43,990	50,380	50,290	49,030	48,400	41,470	33,820	27,350	26
27	9,040	22,060	35,770	42,080	44,170	50,650	50,250	49,030	48,310	41,300	33,480	27,120	27
28	9,160	22,200	36,030	42,060	44,890	50,740	50,250	49,030	48,130	41,210	33,220	26,980	28
29	9,290	22,350	36,540	42,030		50,560	50,250	49,030	47,860	40,960	32,970	26,820	29
30	9,400	22,480	36,880	41,980		48,940	50,250	49,030	47,680	40,700	32,720	26,680	30
31	9,510		37,130	41,980		49,120		49,030		40,530	32,480		31

SHASTA RIVER WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 35

DWINNELL RESERVOIR

Day	April	May	June	July	August	September	October	Day
1		36	84	86	80	78	53	1
2		41	79	85	84	78	56	2
3		46	81	85	84	78	54	3
4		46	83	84	84	75	51	4
5		51	76	81	84	78	47	5
6		64	76	81	84	75	47	6
7		78	76	81	84	71	47	7
8		80	76	81	84	71	40	8
9		81	75	81	85	71	33	9
10		83	65	81	87	71	33	10
11		87	67	81	80	71	33	11
12		90	71	81	75	71	33	12
13		92	84	81	74	70	33	13
14		92	90	81	75	60	33	14
15		90	94	75	75	56	33	15
16		87	94	79	75	49	34	16
17		84	90	78	75	42	33	17
18		82	90	78	78	43	31	18
19		82	90	84	86	47	31	19
20		82	90	87	87	52	31	20
21	30*	79	90	84	89	52	28	21
22	34	72	90	79	89	52	15**	22
23	39	72	90	79	89	52		23
24	47	74	90	79	89	52		24
25	51	79	89	79	84	52		25
26	51	81	85	79	81	51		26
27	51	81	83	79	83	51		27
28	51	84	83	79	83	51		28
29	47	83	86	79	81	51		29
30	42	83	86	79	78	51		30
31		85		78	78			31
Mean	44.3	75.7	83.4	80.8	82.1	60.7	37.7	Mean
Runoff In Acre-Feet	880	4660	4960	4970	5050	3610	1640	Runoff In Acre-Feet

* Beginning of Record
** End of Record

TABLE 36

LITTLE SHASTA RIVER NEAR MONTAGUE

Day	March	April	May	June	July	August	September	Day
1	16	95	58	46	17	9.4	6.7	1
2	17	87	60	44	17	9.3	6.5	2
3	16	82	61	43	16	9.2	6.5	3
4	15	79	62	42	16	9.1	6.5	4
5	16	84	64	43	16	13	6.4	5
6	18	77	69	42	15	12	6.3	6
7	19	68	79	41	15	9.7	6.3	7
8	16	63	85	39	15	9.0	6.2	8
9	17	58	85	37	16	8.7	6.2	9
10	18	58	84	34	16	8.6	6.2	10
11	19	57	85	32	16	8.5	6.1	11
12	21	56	85	30	16	8.1	5.9	12
13	22	52	80	29	15	8.1	6.0	13
14	23	49	76	28	14	8.1	6.0	14
15	30	49	73	27	14	8.0	6.0	15
16	37	51	70	26	14	7.7	5.9	16
17	51	53	68	26	13	7.5	5.9	17
18	70	55	65	25	13	7.5	5.8	18
19	64	54	64	24	12	7.6	5.6	19
20	59	50	61	24	12	7.6	5.6	20
21	55	50	59	23	12	7.4	5.6	21
22	52	54	57	22	12	7.2	5.6	22
23	51	60	56	21	11	7.2	5.6	23
24	50	61	54	21	11	7.2	5.5	24
25	50	60	53	20	11	7.2	5.6	25
26	50	56	53	19	11	7.2	5.6	26
27	50	52	53	19	11	7.0	5.5	27
28	49	49	53	18	11	7.1	5.3	28
29	103	50	52	18	10	7.0	5.3	29
30	124	54	50	17	9.8	6.9	5.3	30
31	89		48		9.5	6.9		31
Mean	41.5	60.8	65.2	29.3	13.5	8.2	5.9	Mean
Runoff In Acre-Feet	2553	3616	4011	1745	828	506	352	Runoff In Acre-Feet

SHASTA RIVER WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 37

SHASTA RIVER AT MONTAGUE-GRENADA HIGHWAY BRIDGE

Day	March	April	May	June	July	August	September	Day
1						19	31	1
2						20	28	2
3						18	24	3
4						14	20	4
5						25	18	5
6						54	18	6
7						52	24	7
8						38	28	8
9					35*	30	49	9
10					52	42	45	10
11					46	42	40	11
12					71	33	47	12
13					70	27	42	13
14					57	26	46	14
15					53	27	57	15
16					40	28	52	16
17					37	26	28	17
18					35	21	30	18
19					110	27	31	19
20					87	29	36	20
21					72	24	43	21
22					39	28	43	22
23					31	31	52	23
24					22	24	55	24
25					20	26	49**	25
26					30	27		26
27					36	25		27
28					36	30		28
29					38	28		29
30					30	27		30
31					20	29		31
Mean					46.4	28.9	37.4	Mean
Runoff In Acre-Feet					2120	1780	1860	Runoff In Acre-Feet

* Beginning of Record
** End of Record

TABLE 38

SHASTA RIVER NEAR YREKA

Day	March	April	May	June	July	August	September	Day
1	654	2640	312	139	77	49	62	1
2	792	2210	299	138	76	51	57	2
3	603	1710	293	143	74	50	54	3
4	492	1310	276	142	70	42	48	4
5	450	1020	267	160	66	45	39	5
6	462	867	269	157	66	84	38	6
7	513	783	271	144	53	86	45	7
8	500	743	259	134	66	75	50	8
9	499	796	252	131	56	60	69	9
10	507	819	263	133	90	62	83	10
11	525	741	278	124	91	76	76	11
12	634	681	268	132	95	65	79	12
13	651	622	249	134	109	58	83	13
14	602	597	238	120	93	51	75	14
15	547	581	206	109	94	52	83	15
16	531	496	217	104	80	58	92	16
17	545	466	225	123	76	53	70	17
18	546	452	225	114	65	49	54	18
19	524	469	187	116	126	53	58	19
20	502	454	188	154	121	62	62	20
21	490	431	174	164	92	58	71	21
22	495	418	148	135	74	52	75	22
23	434	442	141	130	67	77	78	23
24	373	491	131	124	58	59	90	24
25	371	466	122	112	45	57	87	25
26	395	437	117	118	52	60	78	26
27	435	407	137	113	68	49	77	27
28	628	371	159	96	74	54	92	28
29	1180	346	172	103	75	52	110	29
30	2240	319	148	95	67	52	116	30
31	2060		141		55	52		31
Mean	651	753	214	126	76.5	58.2	71.7	Mean
Runoff In Acre-Feet	40030	44800	13150	7620	4700	3580	4270	Runoff In Acre-Feet

Figure 15

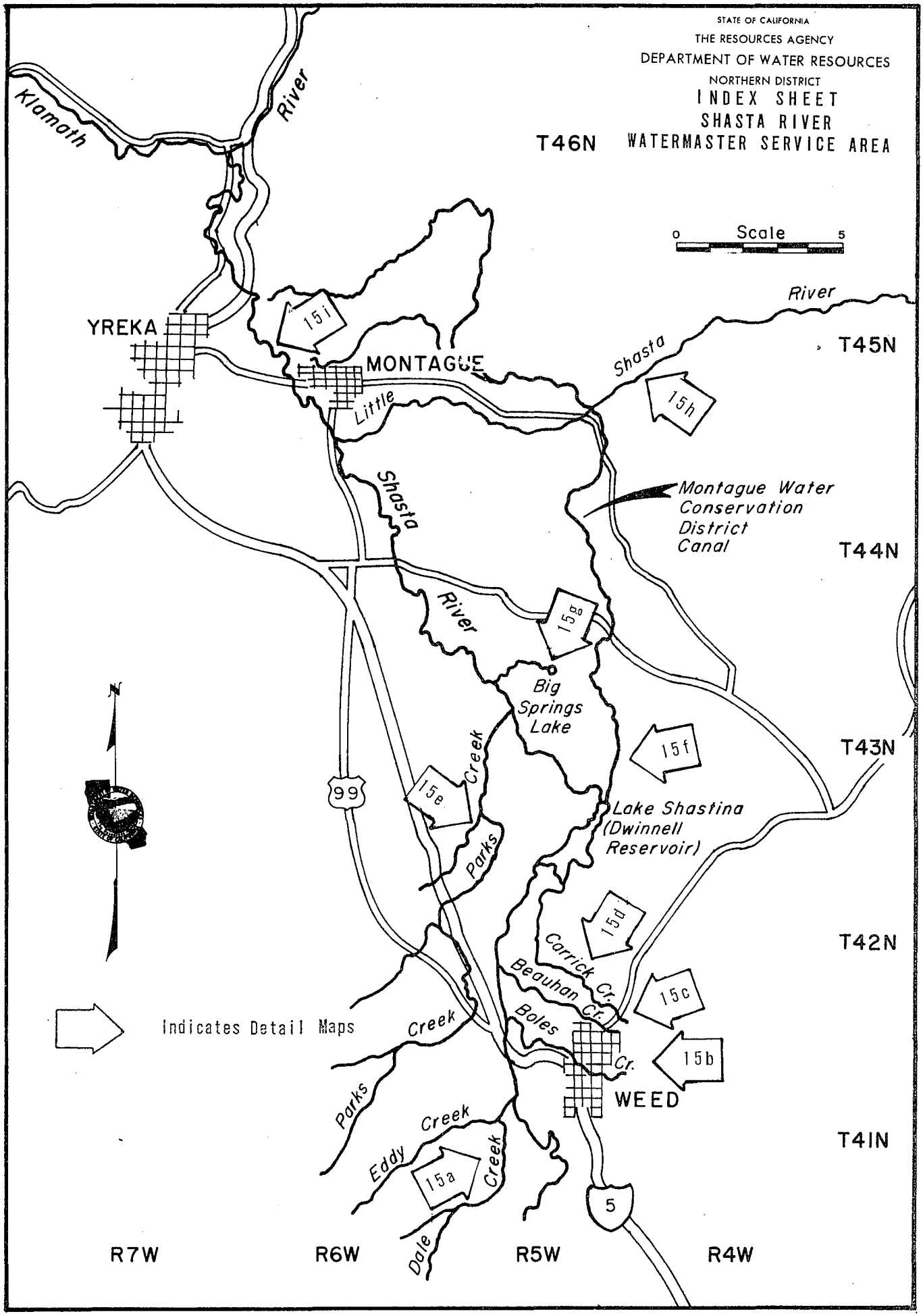

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
INDEX SHEET
SHASTA RIVER
WATERMASTER SERVICE AREA
T46N
Scale
0
5
Klamath
River
YREKA
MONTAGUE
15i
Little
Shasta
River
T45N
Shasta
15h
Montague Water
Conservation
District
Canal
T44N
River
15g
Big
Springs
Lake
15f
T43N
99
15e
Creek
Lake Shastina
(Dwinnell
Reservoir)
Parks
15d
T42N
Carrick Cr.
Beauhan Cr.
15c
Boles
Creek
Cr.
15b
WEED
Indicates Detail Maps
Parks
Creek
Eddy
Creek
15a
T4IN
Dale
5
R7W
R6W
R5W
R4W

Figure 15a

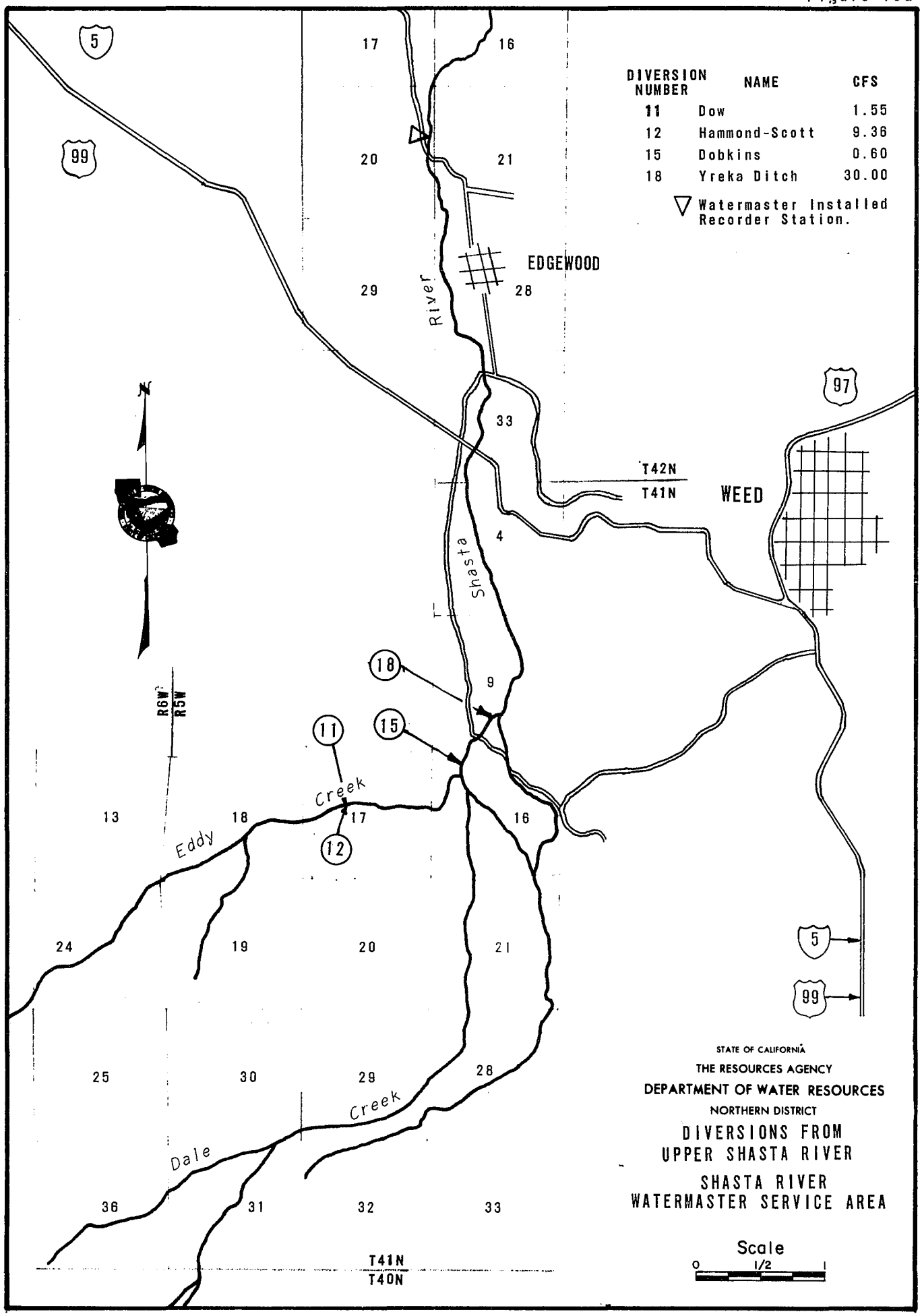
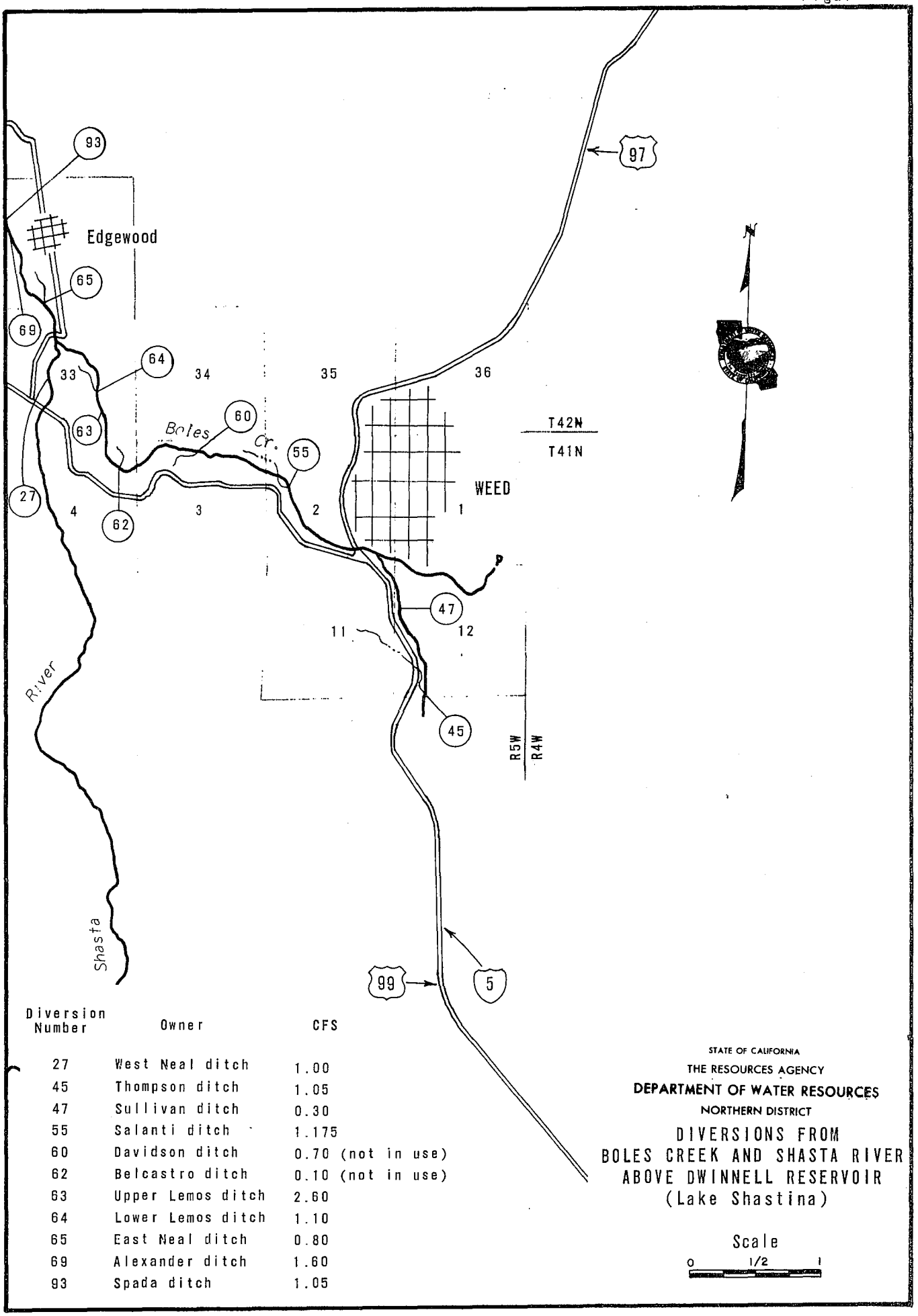

DIVERSION NUMBER
NAME
CFS
11 Dow 1.55
12 Hammond-Scott 9.36
15 Dobkins 0.60
18 Yreka Ditch 30.00
Watermaster Installed Recorder Station.
EDGEWOOD
WEED
Shasta River
Eddy Creek
Dale Creek
T42N
T41N
T41N
T40N
R6W
R5W
5
99
97
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
UPPER SHASTA RIVER
SHASTA RIVER
WATERMASTER SERVICE AREA
Scale
0 1/2 1

Figure 15b



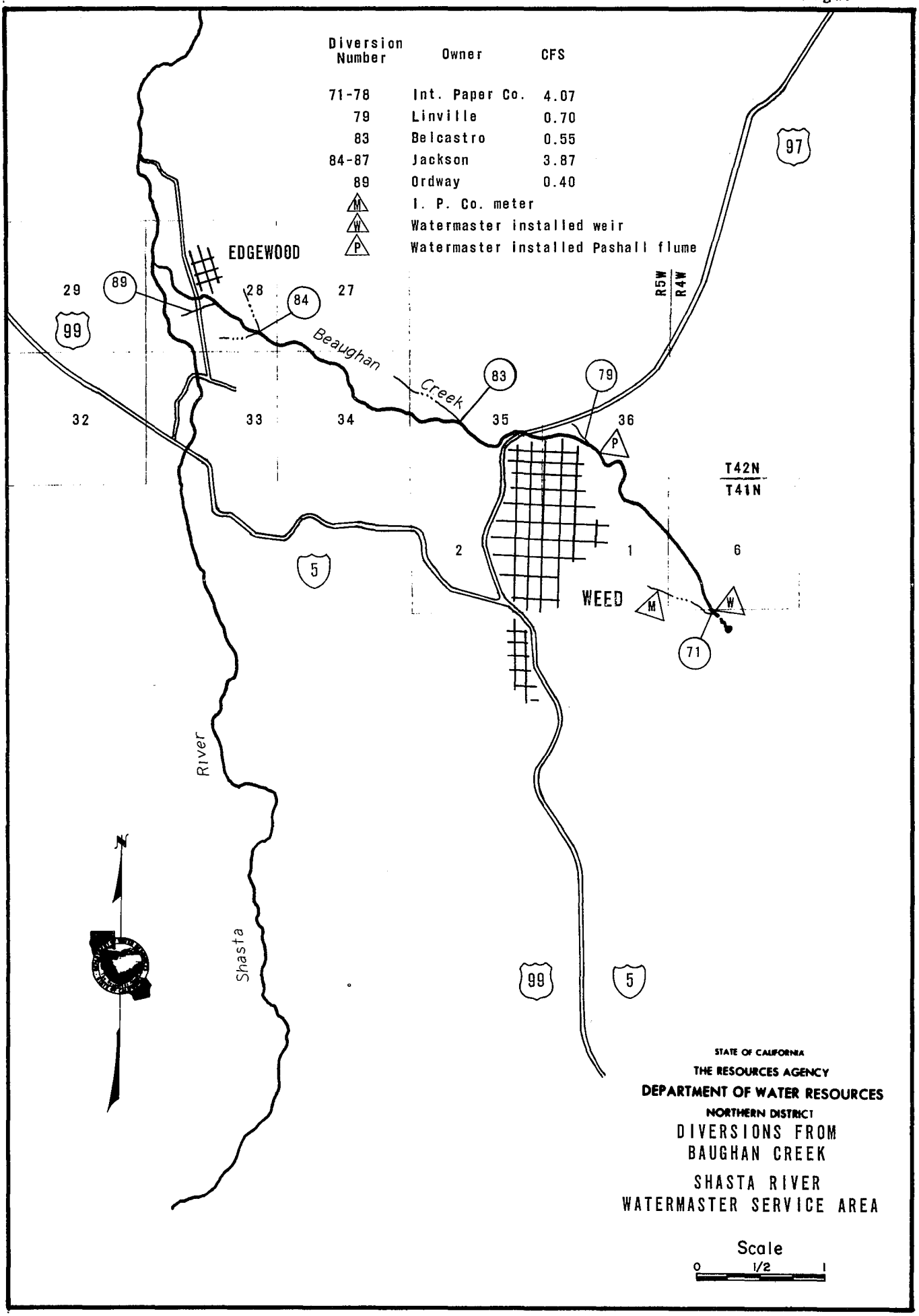
Diversion Number	Owner	CFS
27	West Neal ditch	1.00
45	Thompson ditch	1.05
47	Sullivan ditch	0.30
55	Salanti ditch	1.175
60	Davidson ditch	0.70 (not in use)
62	Belcastro ditch	0.10 (not in use)
63	Upper Lemos ditch	2.60
64	Lower Lemos ditch	1.10
65	East Neal ditch	0.80
69	Alexander ditch	1.60
93	Spada ditch	1.05

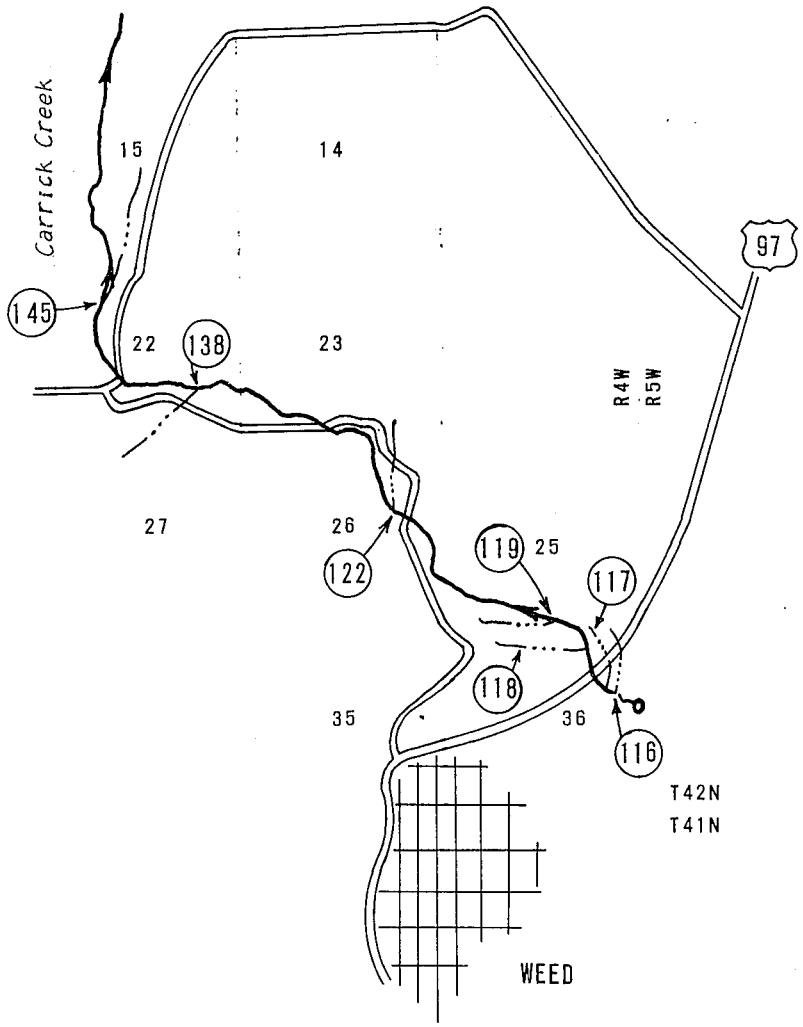
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM
BOLES CREEK AND SHASTA RIVER
ABOVE DWINNELL RESERVOIR
(Lake Shastina)

Scale
0 1/2 1

Figure 15c


Diversion Number
Owner
CFS
71-78 Int. Paper Co. 4.07
79 Linville 0.70
83 Belcastro 0.55
84-87 Jackson 3.87
89 Ordway 0.40
M I. P. Co. meter
W Watermaster installed weir
P Watermaster installed Pashall flume
EDGEWOOD
Beaughan Creek
WEED
R5W
R4W
T42N
T41N
Shasta River
97
99
5
89
84
83
79
71
29
28
27
32
33
34
35
36
2
1
6
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
BAUGHAN CREEK
SHASTA RIVER
WATERMASTER SERVICE AREA
Scale
0 1/2 1



Diversion Number	Owner	CFS
116	Albee ditch	2.20
117	Carrick ditch	2.20
118	Belcastro-Vidrickson ditch	0.40
119	Vidrickson ditch (Can also be used in 118)	0.40
122	Hoy ditch	0.86
138	Jackson ditch	1.20
145	Mills ditch	1.10

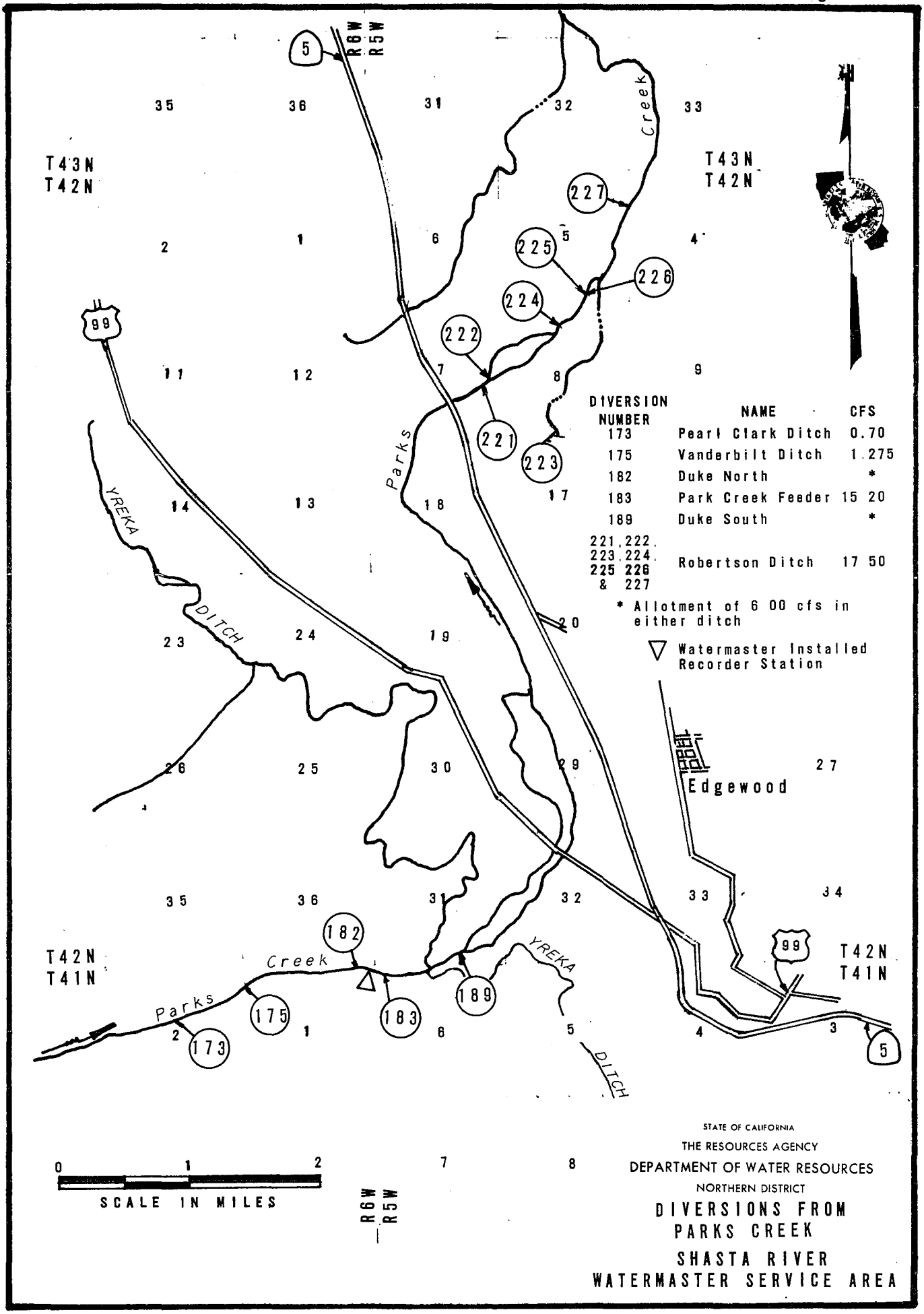
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

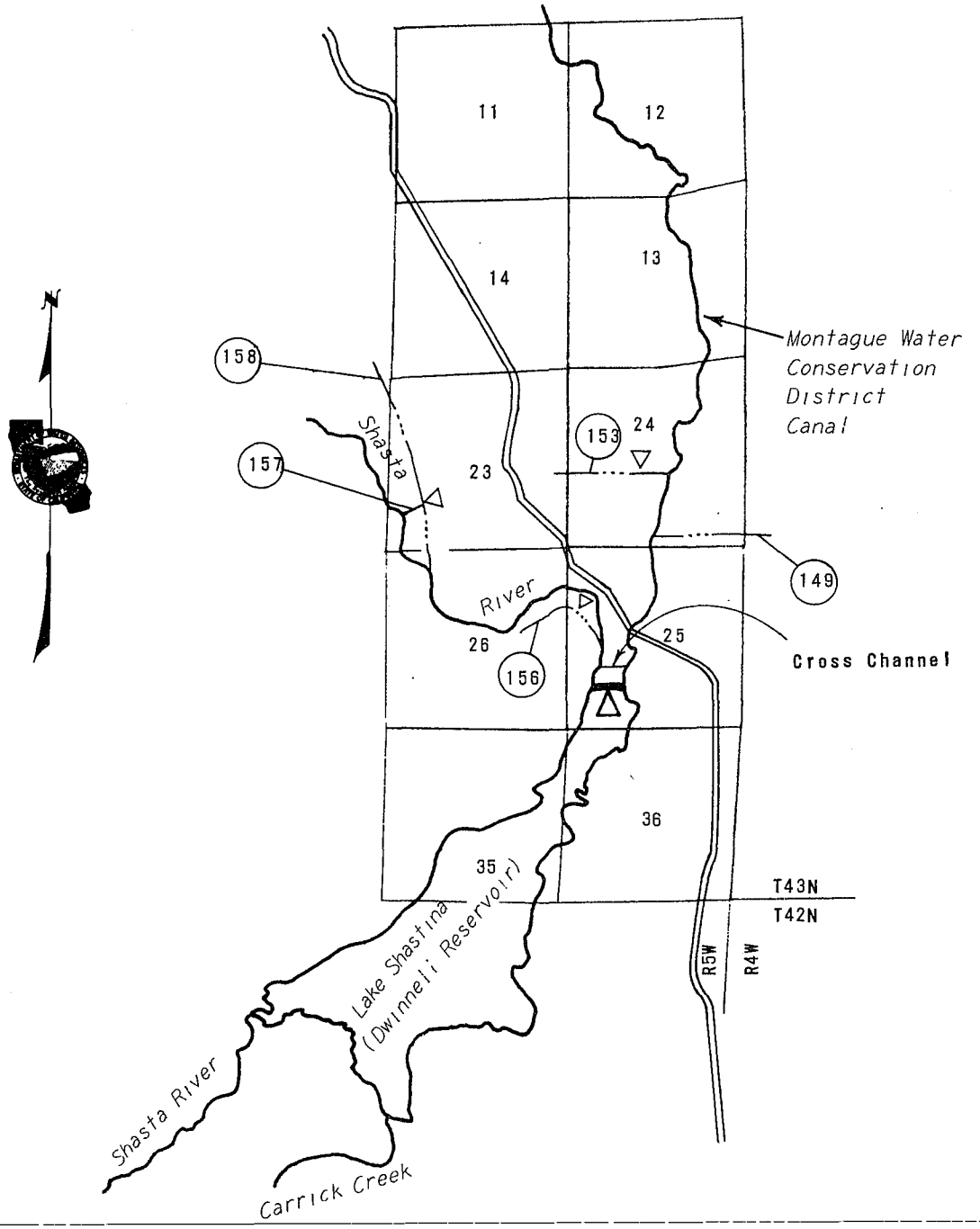
DIVERSIONS FROM CARRICK CREEK

SHASTA RIVER WATERMASTER SERVICE AREA

Scale
0 ½ 1

Figure 15e


R6W
R5W
T43N
T42N
T42N
T41N
Creek
Parks
YREKA
DITCH
Edgewood
99
5
227
225
226
224
222
221
223
182
183
189
175
173
DIVERSION NUMBER
NAME
CFS
173 Pearl Clark Ditch 0.70
175 Vanderbilt Ditch 1.275
182 Duke North *
183 Park Creek Feeder 15 20
189 Duke South *
221,222, 223,224, 225 226 & 227 Robertson Ditch 17 50
* Allotment of 6 00 cfs in either ditch
Watermaster Installed Recorder Station
0 1 2
SCALE IN MILES
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM PARKS CREEK
SHASTA RIVER WATERMASTER SERVICE AREA



T43N ; R5W

Diversion Number	Owner	Acre-Feet
149	Flying L Ranch	198-pump
153	Taylor ditch	1200
156	Seldom-Seen Ranch	924
157	Hole-in-the-Ground Ranch	596
158	Wilson	464

▽ Watermaster Installed Recorder Station

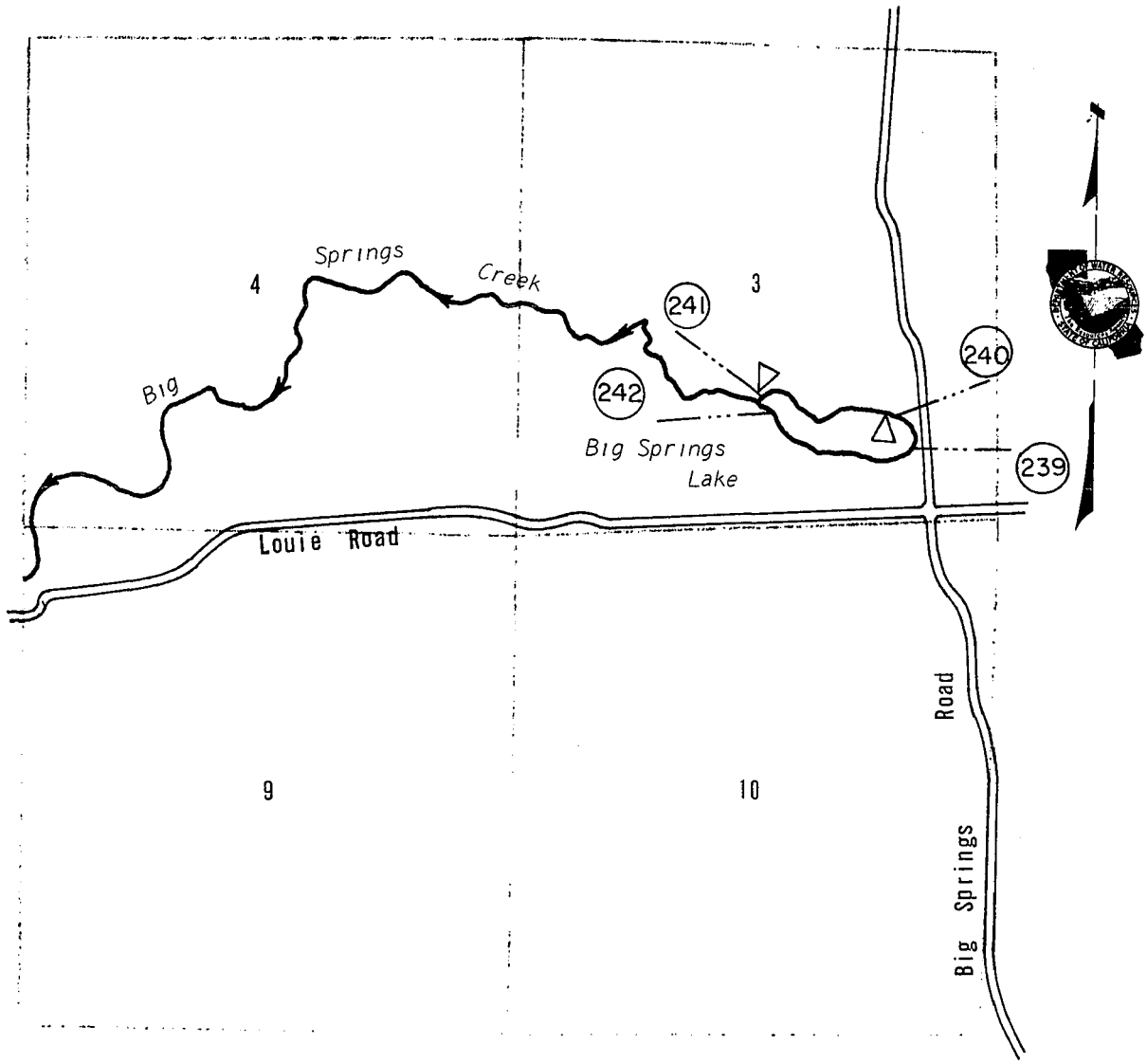
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM
SHASTA RIVER PRIOR RIGHTS
BELOW DWINNELL RESERVOIR
(Lake Shastina)

SHASTA RIVER
WATERMASTER SERVICE AREA

0 1/2 1

Figure 15g



Diversion Number	Owner	CFS
239	Brahs et. al. Pump	7.50
240	Big Springs I.D.	30
241) 242)	E. Louie ditch	10.0

▽ Watermaster Installed Recorder Station

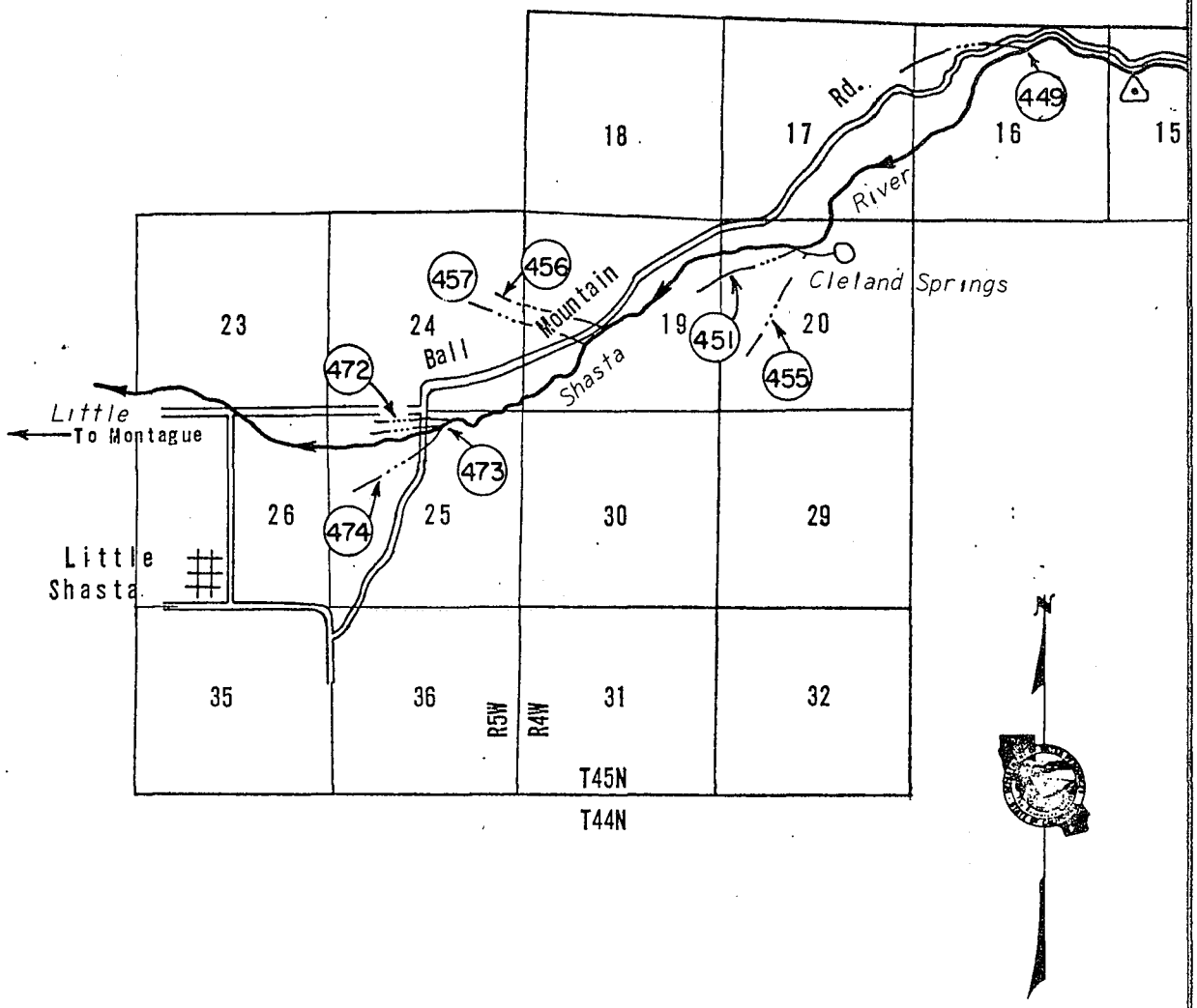
T43N ; R5W

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM BIG SPRINGS LAKE

SHASTA RIVER WATERMASTER SERVICE AREA

Scale
0 2000 4000



DIVERSION NUMBER	NAME	CFS
449	Harp Ditch	0.80
451	Terwilliger Ditch	1.12
455	Martin Ditch	90 00
456	Dimmick Ditch	0 12
457	S & T Ditch	6 60
472	M & L Ditch	19 60
473	BMS Ditch	7.19
474	HHP Ditch	15.000

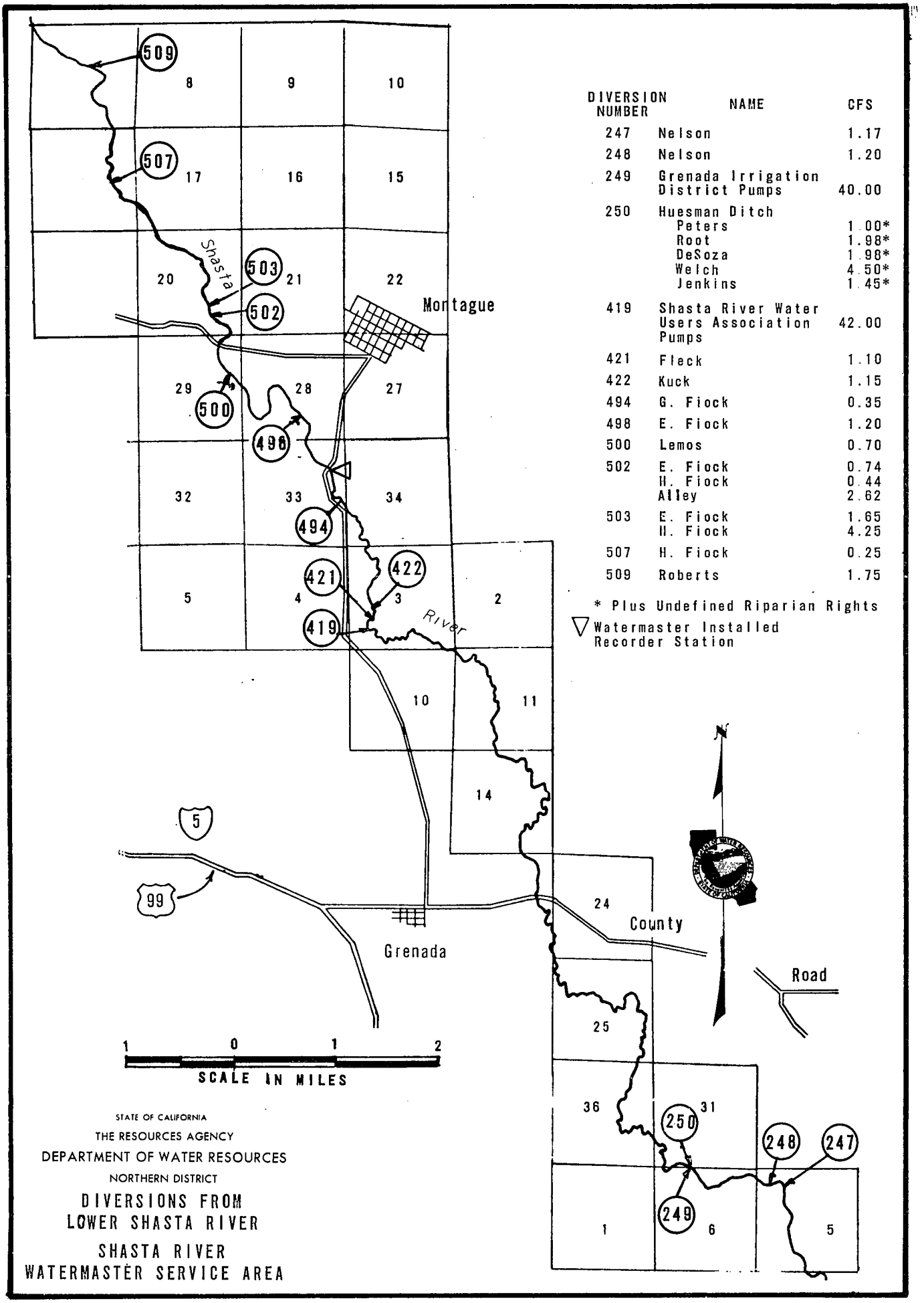
▽ Permanent Recorder Station

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM LITTLE SHASTA RIVER

SHASTA RIVER WATERMASTER SERVICE AREA

Scale
0 1/2 1



DIVERSION NUMBER	NAME	CFS
247	Nelson	1.17
248	Nelson	1.20
249	Grenada Irrigation District Pumps	40.00
250	Huesman Ditch	
	Peters	1.00*
	Root	1.98*
	DeSoza	1.98*
	Welch	4.50*
	Jenkins	1.45*
419	Shasta River Water Users Association Pumps	42.00
421	Fleck	1.10
422	Kuck	1.15
494	G. Fiock	0.35
498	E. Fiock	1.20
500	Lemos	0.70
502	E. Fiock	0.74
	H. Fiock	0.44
	Alley	2.62
503	E. Fiock	1.65
	H. Fiock	4.25
507	H. Fiock	0.25
509	Roberts	1.75

* Plus Undefined Riparian Rights

▽ Watermaster Installed Recorder Station

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM LOWER SHASTA RIVER

SHASTA RIVER WATERMASTER SERVICE AREA

South Fork Pit River Watermaster Service Area

The South Fork Pit River service area is located primarily in southeastern Modoc County, with a small portion extending into northeastern Lassen County. Figures 16 through 16d, pages 125 through 129, show the South Fork and its tributaries, with roads, etc.

The major source of water for this service area is the South Fork Pit River and its tributaries which rise on the western slopes of the Warner Mountains. The river flows in a westerly direction, entering South Fork Valley near Likely. It then flows north through the valley to its confluence with the North Fork Pit River just south of Alturas. The South Fork Pit River is joined from the east by Fitzhugh Creek near the middle of the valley and by Pine Creek near Alturas.

The major area of water use is in South Fork Valley between Likely and Alturas. South Fork Valley is about 16 miles long and 3 miles wide, with the valley floor lying at an elevation of about 4,500 feet. The valley is bounded on both sides by a rocky plateau that separates it from the surrounding mountains.

Basis of Service

The Pine Creek agreement established water rights on Pine Creek November 22, 1933, and this stream system was added to the South Fork Pit River area on January 12, 1935. Pine Creek Reservoir, a small reservoir above all diversions, was originally used for power generation. This reservoir, now a recreation site, has a small water right but is not in the service area.

A large reservoir, West Valley Reservoir, was built in 1937 to increase the supply and extend the season for irrigation in the South Fork Irrigation District. The water rights for use from West Valley Reservoir total 23,100 acre-feet.

Pine Creek water rights were established by agreement on November 22, 1933, and watermaster service began January 12, 1935. Pine Creek Reservoir, a small reservoir above all diversions, was originally used for power generation. This reservoir, now a recreation site, has a small water right but is not in the service area.

The South Fork Pit River decree and the Pine Creek agreement establish two priorities on the respective systems. There are 36 owners of decreed water rights in the service area with total allotments of 350.97 cubic feet per second.

Water Supply

The water supply for Pine Creek is derived mostly from snowmelt runoff. Therefore, runoff is usually small in the early spring, increases to a peak in May as temperatures rise, and then gradually decreases throughout the remainder of the season. Water users supplement their irrigation supplies from other sources whenever possible.

The water supply for Fitzhugh Creek consists of snowmelt runoff early in the season and supplemental water diverted from Mill Creek above Jess Valley later in the season. Surplus water from Fitzhugh Creek is diverted into the Payne and French Reservoirs through Payne-French Ditch (Diversion 136) until about June, when the diversion is adjusted to allow sufficient flow to supply downstream allotments. By July the creek has normally receded until only first priority allotments are available.

Payne Ditch (Diversion 1) is opened to import water from Mill Creek to Fitzhugh Creek when the snow has melted enough to allow access. This imported water is rediverted from North Fork Fitzhugh Creek through the Bowman Ditch to the Bowman Ranch. Return flow from

Bowman Ranch to the creek is rediverted through Diversion 136.

The water supply for the South Fork Pit River is derived primarily from snowmelt runoff, supplemented by water released from West Valley Reservoir. A number of streams, which rise at high elevations, collect at the mouth of Jess Valley to form the South Fork Pit River. West Valley Reservoir is located on West Valley Creek which enters the river below Jess Valley.

Most of the water users on the South Fork Pit River, except those in Jess Valley, are in the South Fork Irrigation District. The district stores water in West Valley Reservoir, which has a capacity of 23,000 acre-feet, and releases it to the South Fork Pit River as a supplemental supply when the natural flow becomes insufficient to meet demands. This usually occurs during the middle of June. Reservoir releases, together with the natural flow, are distributed by the watermaster in cooperation with the board of directors of the irrigation district. Except for extremely dry years, natural flow, combined with stored water, is sufficient to supply all demands for water on the South Fork Pit River throughout the irrigation season.

Records of the daily mean discharge of the several stream gaging stations in the area are presented in Tables 39 through 42, pages 123 and 124.

Method of Distribution

Irrigation of the lands along tributary streams is accomplished by flooding through use of small lateral ditches. The water is distributed on a continuous-flow basis to each user through gravity-flow diversion systems. In some cases, rotation is practiced among several users.

Most irrigation in the South Fork Pit River area is by the check and border method. The lands receive water essentially on demand by supplementing natural flow with releases from West Valley Reservoir. However, irrigation must be coordinated between the various ranches to eliminate large peak demands from the reservoir and to use the return flow as much as possible. Actual distribution varies each year as there is no specific irrigation schedule in use.

Distribution to the South Fork Pit River users is carried out on an equal and correlative basis in accordance with the water requirements for each ranch. This method of operation was made possible by construction of West Valley Reservoir in 1937.

1974 Distribution

Watermaster service began April 1 and continued until October 12. L. L. Bates, Water Resources Engineering Associate, was the watermaster for this season.

The water supply for the 1974 irrigation season was 73 percent of average.

Pine Creek. The flow remained low early in the season due to cold weather. There was sufficient water until haying ended, then very close regulation was required. From July until irrigation was finished, only 50 percent of priorities could be met.

Fitzhugh Creek. There was surplus water for all users until mid-June. The flow receded during the remainder of the season until only a portion of first priorities were served. Two new gaging stations were installed to study available winter surplus flows.

South Fork Pit River. West Valley Reservoir filled and spilled early in the season and all users enjoyed an abundance of water until the end of July. From August until the end of the season, the users above West Valley Reservoir received all of their first priorities and approximately 90 percent of second priorities. The users below West Valley received all waters needed from storage on a demand basis.

SOUTH FORK PIT RIVER WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 39

SOUTH FORK PIT RIVER NEAR LIKELY

Day	March	April	May	June	July	August	September	Day
1	27	43	247	295	127	90	197	1
2	25	49	277	286	122	95	196	2
3	25	43	295	277	119	94	196	3
4	25	27	311	272	115	94	194	4
5	32	25	328	279	114	110	192	5
6	62	28	365	282	114	105	190	6
7	46	22	409	256	114	98	188	7
8	33	21	470	243	122	98	188	8
9	35	21	560	228	146	97	186	9
10	44	20	605	205	144	94	186	10
11	61	16	600	194	148	90	138	11
12	95	18	590	184	138	110	102	12
13	112	19	533	176	127	144	102	13
14	115	20	474	182	122	156	97	14
15	117	22	450	182	117	158	92	15
16	66	28	402	176	117	156	92	16
17	60	36	371	169	114	152	92	17
18	51	65	355	159	104	150	94	18
19	36	73	334	154	95	152	88	19
20	28	77	314	154	92	152	86	20
21	23	57	295	144	94	150	88	21
22	22	61	272	129	94	146	89	22
23	20	67	265	126	94	144	79	23
24	22	77	275	120	92	144	67	24
25	25	92	291	119	95	144	69	25
26	22	110	309	115	100	144	70	26
27	24	133	330	126	102	142	69	27
28	23	144	342	126	102	142	69	28
29	25	173	337	124	100	140	70	29
30	37	220	325	120	97	163	70	30
31	38		311		92	199		31
Mean	44.4	60.2	376	187	112	131	121	Mean
Runoff In Acre-Feet	2730	3580	23090	11110	6890	8040	7210	Runoff In Acre-Feet

TABLE 40

WEST VALLEY CREEK BELOW WEST VALLEY RESERVOIR

Day	March	April	May	June	July	August	September	Day
1		0.0*	92	39	76	67	133	1
2		0.0	86	37	76	67	131	2
3		0.0	84	35	75	66	128	3
4		0.0	84	33	75	64	128	4
5		0.0	84	32	75	64	128	5
6		0.0	86	30	75	64	128	6
7		0.0	88	27	75	63	126	7
8		0.0	94	24	75	63	124	8
9		0.0	94	22	74	63	124	9
10		0.0	94	21	74	63	124	10
11		0.0	94	20	74	63	105	11
12		0.0	92	18	74	95	88	12
13		0.0	88	16	72	133	88	13
14		0.0	84	24	71	146	86	14
15		0.0	83	38	70	146	86	15
16		0.0	80	32	70	144	84	16
17		0.0	78	31	70	142	83	17
18		0.0	75	31	69	139	83	18
19		0.0	74	30	69	139	83	19
20		0.0	71	30	69	137	81	20
21		0.0	68	30	69	139	81	21
22		0.0	67	30	69	139	81	22
23		0.0	64	30	69	142	66	23
24		16	60	31	69	139	51	24
25		44	59	37	69	139	50	25
26		60	56	37	68	137	50	26
27		83	52	51	68	137	50	27
28		99	49	78	68	137	49	28
29		101	47	78	68	135	49	29
30		99	44	76	68	133	48	30
31			41		68	133		31
Mean		71.7	74.6	34.9	71.3	110.9	90.5	Mean
Runoff In Acre-Feet		997	4586	2080	4390	6820	5390	Runoff In Acre-Feet

* Beginning of Record

SOUTH FORK PIT RIVER WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 41

FITZHUGH CREEK BELOW DIVERSION NO. 137

Day	March	April	May	June	July	August	September	Day
1		15E*	26	10	5.2	1.7	2.3	1
2		15E	30	10	5.8	1.5	2.3	2
3		15E	30	10	4.2	1.7	2.3	3
4		15E	28	9.8	2.1	1.9	2.3	4
5		15E	19	9.8	2.1	1.9	2.3	5
6		15E	20	10	2.1	1.3	2.3	6
7		15E	21	9.5	2.3	1.7	2.1	7
8		15E	22	8.9	3.2	1.7	2.1	8
9		15E	22	8.6	4.4	1.5	2.1	9
10		15E	20	8.4	4.1	1.5	2.1	10
11		15E	18	7.6	3.3	1.2	1.9	11
12		15E	18	7.4	2.8	1.2	1.9	12
13		16	14	7.2	2.5	1.2	1.9	13
14		17	12	6.8	2.3	1.3	1.9	14
15		18	12	6.8	1.9	1.5	1.9	15
16		19	11	6.8	1.9	1.3	1.9	16
17		22	14	6.6	1.8	1.3	1.9	17
18		31	20	6.6	1.8	1.7	1.9	18
19		30	20	6.2	1.7	1.7	1.9	19
20		40	18	6.6	2.1	1.7	1.9	20
21		36	17	6.4	3.3	1.8	1.8	21
22		28	16	6.0	2.8	1.9	1.7	22
23		25	15	5.8	1.9	1.9	1.5	23
24		22	14	5.6	1.7	1.9	1.3	24
25		19	12	5.6	1.7	2.1	1.2	25
26		18	12	5.6	1.8	2.1	1.3	26
27		17	11	4.8	1.8	2.1	1.7	27
28		16	11	4.8	1.8	2.3	1.9	28
29		18	11	4.8	1.9	2.5	2.1	29
30		21	11	4 6	1.9	2.3	2.5	30
31			11		1.7	2.1		31
Mean		19.8E	17.3	7.3	2.6	1.7	1.9	Mean
Runoff In Acre-Feet		1180	1060	432	158	1.6	112	Runoff In Acre-Feet

* Beginning of Record
E Estimated

TABLE 42

PINE CREEK NEAR ALTURAS

Day	March	April	May	June	July	August	September	Day
1	13	24	26	79	32	15	16	1
2	15	26	30	74	30	14	15	2
3	15	21	32	71	29	14	15	3
4	16	18	33	69	28	14	15	4
5	21	18	36	72	28	15	15	5
6	43	18	39	70	27	15	14	6
7	23	17	44	70	26	15	14	7
8	19	17	51	67	27	15	14	8
9	20	18	60	63	27	15	14	9
10	24	17	66	55	25	15	14	10
11	42	17	77	54	23	16	14	11
12	39	17	77	53	22	16	14	12
13	25	17	72	54	22	16	14	13
14	25	17	70	54	21	16	14	14
15	25	18	65	55	20	15	14	15
16	20	19	60	54	20	14	14	16
17	18	20	58	51	19	16	14	17
18	17	24	54	50	19	17	14	18
19	16	34	50	49	18	17	13	19
20	15	32	46	49	18	17	13	20
21	15	24	41	45	17	18	13	21
22	15	23	41	42	17	18	13	22
23	15	24	43	40	16	17	13	23
24	15	20	44	38	16	17	13	24
25	16	21	47	37	16	17	13	25
26	17	21	52	36	15	17	13	26
27	17	20	59	35	15	16	13	27
28	17	19	65	34	15	16	14	28
29	19	19	77	33	15	16	13	29
30	20	21	84	32	14	16	13	30
31	19		84		14	16		31
Mean	20.5	20.7	54.3	52.8	21.0	15.8	13.8	Mean
Runoff In Acre-Feet	1261	1232	3338	3144	1291	974	823	Runoff In Acre-Feet

Figure 16

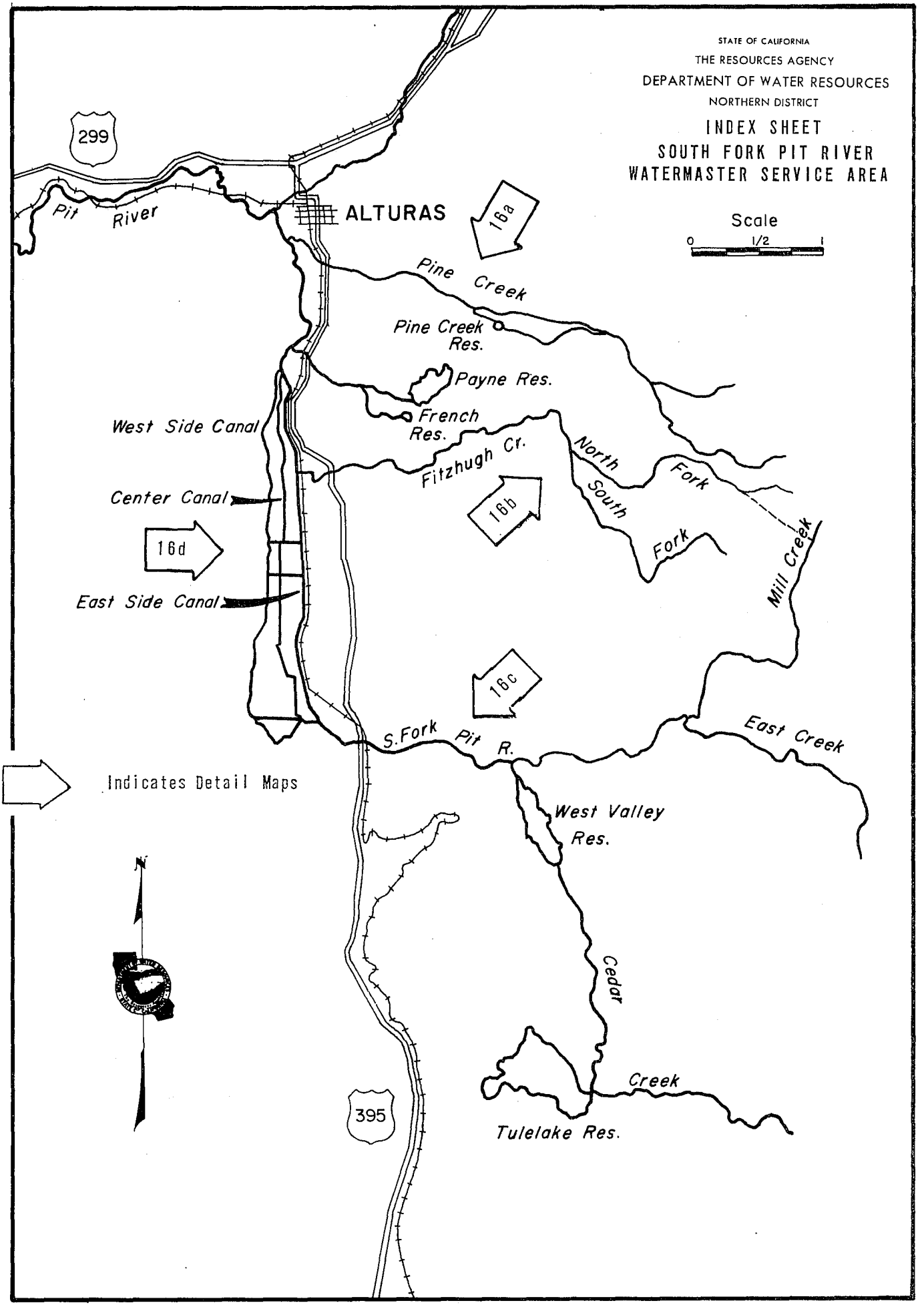
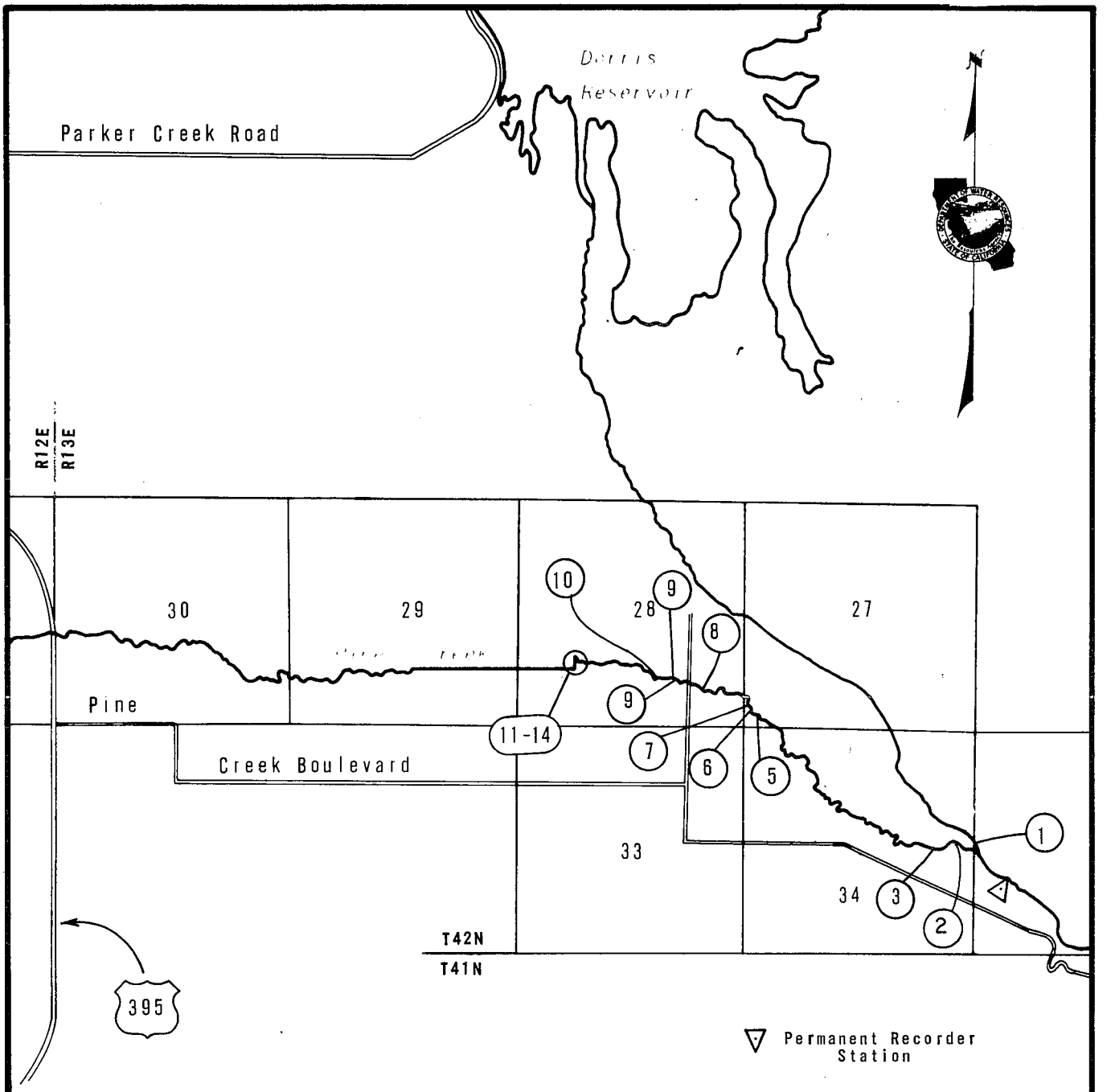

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
INDEX SHEET
SOUTH FORK PIT RIVER
WATERMASTER SERVICE AREA
Scale
0 1/2 1
299
Pit River
ALTURAS
16a
Pine Creek
Pine Creek Res.
Payne Res.
French Res.
West Side Canal
Fitzhugh Cr.
North Fork
South Fork
Mill Creek
Center Canal
16b
16d
East Side Canal
16c
S. Fork Pit R.
East Creek
Indicates Detail Maps
West Valley Res.
Cedar Creek
395
Tulelake Res.

Figure 16a



Diversion Number		
1	Rice	3.00
	Stevens	3.35
	Wall	0.10
	Quinn	0.70
	Sullivan	0.70
	Ebbe	0.70
2,3,6, 7,8,9	Rice	4 85
5	Weber Bros.	8.17
	Younger	4.42
	Swanson	1.37
10		3.6
11-14	Swanson	3.04

Note: Pine Creek
1. Channel capacity below No. 5 is about 20 cfs.
2. Surpluss Pine Creek flow is diverted into Dorris Reservoir.

STATE OF CALIFORNIA
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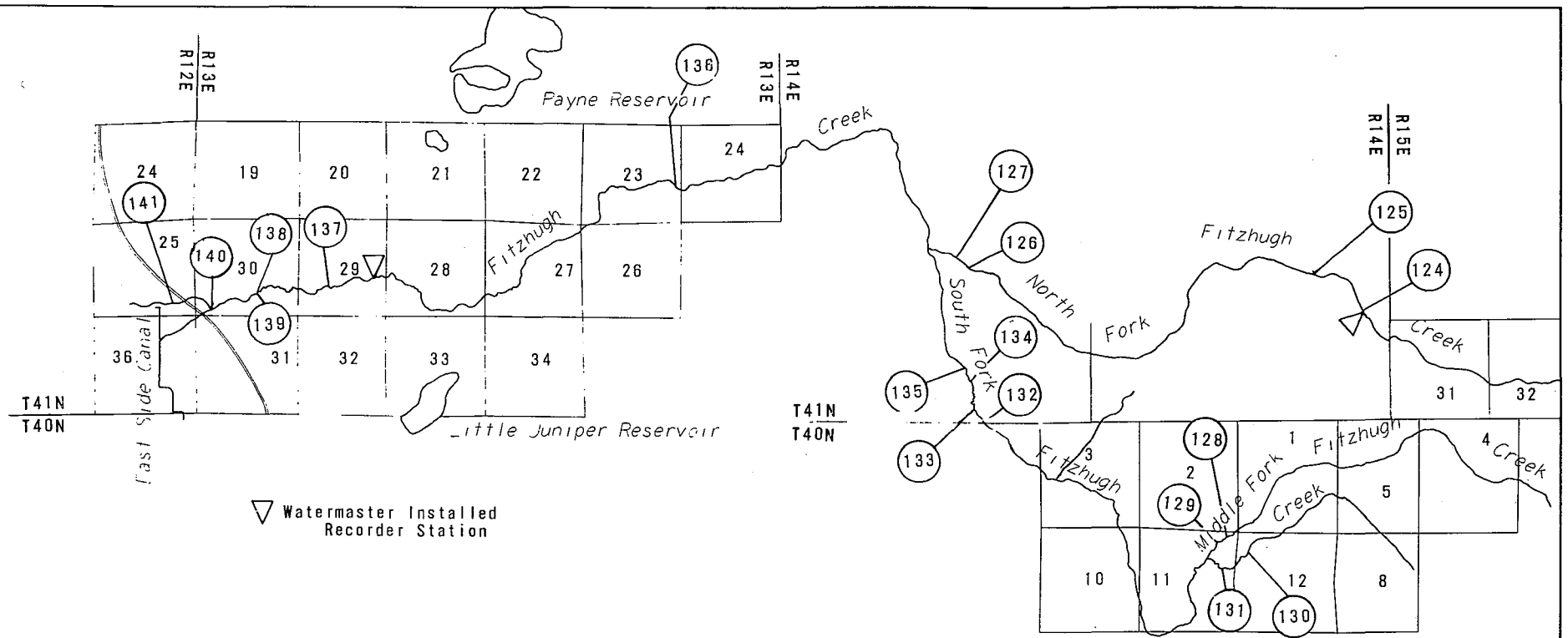
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM PINE CREEK

SOUTH FORK PIT RIVER WATERMASTER SERVICE AREA

Scale

0 ½ 1



Diversion Number	Owner	CFS	
1	Jobe	2.34	
124	Jobe	0.60	plus imported water from Mill Creek
125	Swanson	1.60	
126,127	Weber Bros.	0.50	
128-131	Cantrall	1.20	
132-135	Weber Bros., Swanson	0.70	
136	Massae	*	
137-141	Bell	5.00	
142	Pit River Ranch	5.40	

* Surplus water plus water from Bowman Drain due to imported water from Mill Creek

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

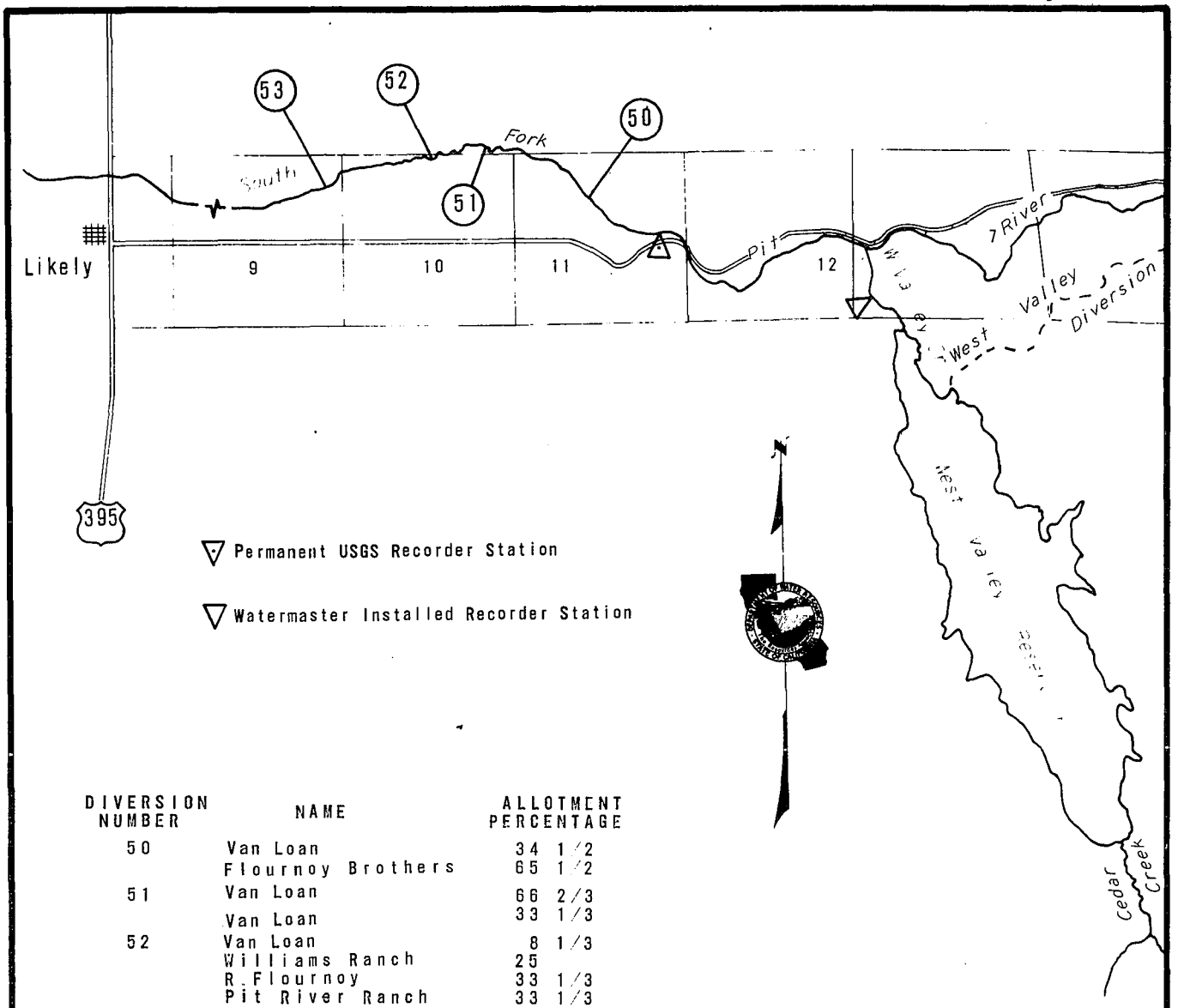
DIVERSIONS FROM
FITZHUGH CREEK

SOUTH FORK PIT RIVER
WATERMASTER SERVICE AREA

Scale 0 1 2

Figure 16b

Figure 16c



DIVERSION NUMBER	NAME	ALLOTMENT PERCENTAGE
50	Van Loan	34 1/2
	Flournoy Brothers	65 1/2
51	Van Loan	66 2/3
	Van Loan	33 1/3
52	Van Loan	8 1/3
	Williams Ranch	25
	R. Flournoy	33 1/3
	Pit River Ranch	33 1/3
53	W. Flournoy	33 1/3
	K. Van Loan	66 2/3

NOTE: West Valley Reservoir maximum storage 23,100 acre-feet

Stored water is released to supplement natural flow of South Fork Pit River. This makes decree allotments relatively unimportant

Above percentages refer only to available water supply in respective ditches.

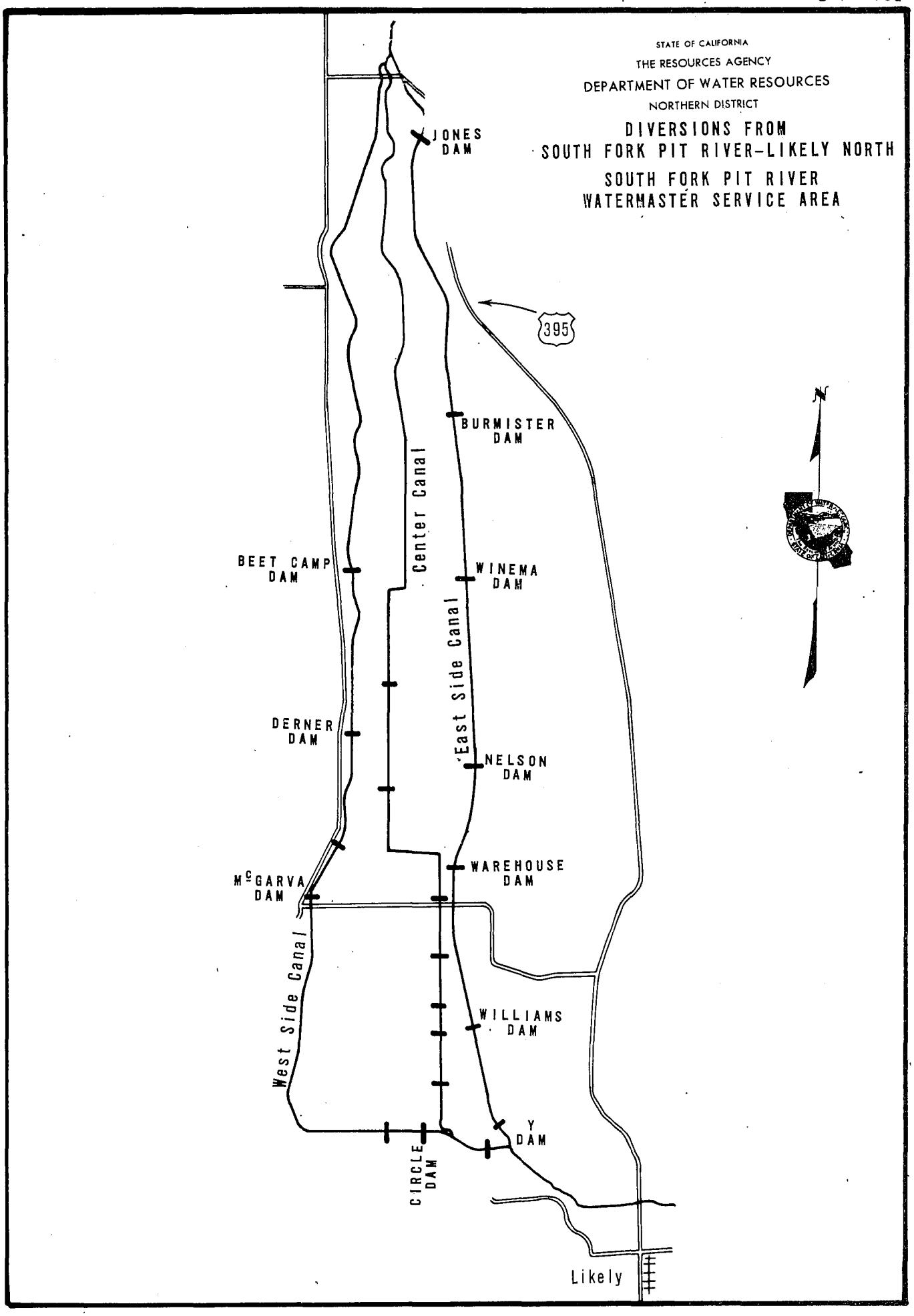
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM SOUTH FORK PIT RIVER-LIKELY EAST SOUTH FORK PIT RIVER WATERMASTER SERVICE AREA

Scale

0 ½ 1

Figure 16d


STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
SOUTH FORK PIT RIVER-LIKELY NORTH
SOUTH FORK PIT RIVER
WATERMASTER SERVICE AREA
JONES DAM
395
BURMISTER DAM
Center Canal
BEET CAMP DAM
WINEMA DAM
East Side Canal
DERNER DAM
NELSON DAM
McGARVA DAM
WAREHOUSE DAM
West Side Canal
WILLIAMS DAM
Y DAM
CIRCLE DAM
Likely

Surprise Valley Watermaster Service Area

The Surprise Valley service area is situated in extreme eastern Modoc County, east of the Warner Mountains. Figure 17, page 141, shows the service area, the streams serving it, and the towns and roads of the valley.

Ten individual stream systems rising on the eastern slope of the Warner Mountains supply water to the area. These streams are fed by snowmelt runoff and traverse a fast, precipitous course down the eastern slope of the Warner Mountains to the valley floor where numerous scattered diversion ditches convey water to the irrigated lands.

Basis of Service

The Surprise Valley watermaster service area was created January 10, 1939, including Mill, Soldier, Pine, Cedar, Deep, Owl, Rader, and Emerson Creeks, all of which previously had watermaster service individually. Service was started on Eagle Creek at that time. Bidwell Creek was added to the service area March 16, 1960. Each of the 10 stream systems are under separate decrees. There are 171 owners of decreed water rights in the service area with their rights totaling 313.75 cubic feet per second. See Table 43, page 132, for specific data regarding the decrees and water rights on the individual creeks.

Water Supply

The water supply is derived almost entirely from snowmelt runoff, with only minor spring-fed flows occurring in the latter part of the season. Due to the steep eastern slope of the Warner Mountains, there are no known economically justified storage sites on the service area streams. Because of the lack of such regulatory storage, the available water supply at any specific diversion point may vary considerably within a few hours. An extreme diurnal temperature variation causes extensive variation in snowmelt runoff. This problem is further aggravated by the relatively short, steep drainage area. In addition, occasional summer thundershowers may cause a creek to discharge a flow of mammoth proportions for several hours. These flashes are apt to cause considerable damage in the form of washouts and debris deposition and are of such short duration that no beneficial use can be made of the water.

Records of the daily mean discharge at several stream gaging stations within the service area are presented in Tables 44 through 54, pages 135 through 140.

Method of Distribution

The continuous-flow method of distribution is employed on most creeks; however, in a few instances the available water supply is rotated among the users in accordance with either decree schedules or by mutual agreement.

Alfalfa and meadow hay, the major crops grown in the valley, are irrigated in most instances by wild flooding, although some lands depend upon subsurface irrigation. Also, sprinkler irrigation with surface water is a recent trend. A few of these systems work by gravity, but most employ pumps with the surface water supplemented by deep wells. Many additional acres have been put into production during the past few years through the use of deep wells. Only surface water supplies are under state watermaster service.

To facilitate distribution of irrigation water, construction of permanent diversion dams, headgates, and measuring devices has been stressed during recent years. Although these structures do not solve the problems of discharge variation and debris deposition, they do provide significant assistance in solving water

TABLE 43

DECREES AND RELATED DATA - SURPRISE VALLEY STREAMS

Creek	Modoc County Superior Court Decree No.	Date	Type[a/]	Service Area Created	No. of Water Right Owners	Total Cubic Feet Per Second	Remarks
Bidwell	6420	1-13-60	S	3-16-60[b/]	46	63.74	(Schedule 3) 3 priorities March 15-July 19 (Schedule 4) 5 priorities July 10-Sept. 30 If no water passing Div. No. 23 Sept. 30-March 14, 1st priority provisions of Schedule 4 apply.
Mill	3024	12-19-31	CR	12-30-31	38	37.13	1 priority on Brown Cr., tributary to Rutherford Cr., 7 priorities on Rutherford Cr., tributo Mill Cr., 4 priorities on Mill Cr., 1st & 2nd for year-round use, 3rd & 4th April through September.
Soldier	2045	11-28-28	CR	9-11-29	13 4[c/]	33.50 4.37	Starting March 19 each year, lower users receive water for 4 13-day periods alternating with upper users who receive water for 4 10-day periods, ending June 19. 7 priorities during lower users periods, 8 during upper users periods and 12 for rest of the year. Approp. License 1566, 1613, 1648, and 1850.
Pine	3391	12- 7-36	CR	1-13-37	5 1[c/]	d/ 0.08	One full rotation totalling 693 AF. Rotation continues until flow decreases to 4 cfs, then all water goes to Cal-Vada Ranch until flow decreases to 1.60 cfs, then all water goes to the R. Bordwell Ranch.
Cedar	1206 2343 d/	5-22-01 2-15-23	CA CA	9-11-29	12	28.90[d/]	Water rights established by these two decrees and an agreement signed by all users. No. 1206 set 1st & 2nd priorities; No. 2443 3rd priority & agreement the 4th. 28.90 cfs includes 5.00 cfs imported from Thoms Cr. on west slope of Warner Mountains.
Deep	3101	1-25-34	CR	12-29-34	11	29.37	Schedule 2 establishes 5 priorities, year-round.
Owl	2410	5-29-29	CA	9-11-29	8 1[c/]	41.70	21 priorities; all year-round but 8th, under which each of 3 owners receives his allotment for an 8-day period. Approp. License No. 2842, 0.54 cfs.
Rader	3626	6- 4-37	CR	6-12-37	6	21.00	7 priorities. 7th is for surplus water. Diversions No. 1, 3, 6 & 7 have seasonal limitations.
Eagle	2304 3284	4- 5-26 11- 5-37	CA CR	1-10-39	36	30.57	Decree No. 3284 added rights in all priority classes, & established 4 classes. 4.50 cfs right of Betford Corp. is for use March 1 to July 1. Eagleville 'town users', Schedule 2 may divert through Gee & Grider ditches March 16 to October 14 each year. Set 1st priority rights of Gee & Grider ditches, Par. XVII & XVIII, for use April 15 to October 1.
Emerson	2840	3-25-30	CR	4-11-30	10	24.65	4 priorities, 1st is for year-round use, others April 1 to September 30.

a/ S-Statutory, CR-Court Reference, CA-Court Adjudication

b/ Added to existing Surprise Valley service area.

c/ Appropriative rights junior to the decreed rights.

d/ See remarks.

measurement and distribution problems. The individual streams and locations of the diversions are shown on Figures 17 through 17j, pages 141 through 152.

Although the Owl Creek Flood Control and Water Conservation District did not become official until August 7, 1961, the district's diversion and distribution project was completed in February, 1961. The project reduced the number of diversions from 17 to 2 and the number of ditches from 17 to 8. This makes distribution easier and more equitable. The users say that they receive twice as much water as they did before the project. It is possible to divert and distribute 80 cubic feet per second in the lower seven ditches.

1974 Distribution

Watermaster service began in the Surprise Valley service area on March 19 and continued until September 30. Charles H. Holmes, Assistant Engineer, Water Resources, was watermaster during this period.

Streams in the northern half of the valley had approximately normal runoff, while streamflow in the southern half was above normal. Very good crop yields were experienced throughout the valley, especially by ranchers who supplemented their irrigation by ground water pumping.

Bidwell Creek. Total stream runoff available to Bidwell Creek users during the period April 1 through September 30 was 15,317 acre-feet, or approximately 142 percent of normal. July 1 streamflow was adequate to supply 49 percent of first priority allotments on Schedule 3. When Schedule 4 became effective July 10, streamflow was adequate to supply the first, second, and 33 percent of third priorities. Streamflow gradually diminished until September 18 at which time 16 percent of second priority was available. The streamflow remained constant at this flow until September 30, the end of the watermaster season.

Mill Creek. Total stream runoff available to Mill Creek users during the period April 1 to September 30 was 4,368 acre-feet or approximately 86 percent of normal.

Fourth priority water rights were filled from May 7 until June 6, after which the flow diminished until August 5 when the full second priority was available. At the end of September 95 percent of the first priority rights were being served.

Soldier Creek. Total stream runoff available to Soldier Creek users from March 19 through September 30 was 3,435 acre feet or approximately 93 percent of normal.

The flow was adequate to supply both upper and lower users at full eighth priority from April 30 to May 28. The flow receded from that time until June 19 when 92 percent of the second priority rights were being satisfied. When the "season outside of the general irrigation season" started June 19, the flow was adequate to supply only 45 percent of the fourth priority. From August 1 to September 30 only partial first priority rights were served.

Pine Creek. Total stream runoff available to Pine Creek users during the period March 20 to September 30 was 1,749 acre-feet, or approximately 125 percent of normal. ≠ 1400 Ac-ft.

There was sufficient water for each of the water users to receive four irrigations on rotation by May 19. From that time until June 22 the flow was diverted to the Cal-Vada Ranch. On June 22 the flow was turned into the Cressler Ditch where it continued until August 1 at which time the water failed to reach the place of use. Pine Creek was dry from August 6 until the end of the season.

Cedar Creek. Total stream runoff available to Cedar Creek users during the period April 1 through September 30 was 3,031 acre-feet, or approximately 116 percent of normal. Early streamflow

was adequate to supply demands. However, by May 18 only first priority and 50 percent of the second priority could be satisfied. Warrens and Wiley supplemented their allotment with water imported from Thoms Creek. From June 14 through the remainder of the season only a portion of the first priority could be satisfied, with only 4 percent by September 30.

Deep Creek. Total stream runoff available to Deep Creek users from April 1 to September 30 was 3,478 acre-feet, or approximately 95 percent of normal.

The flow in North Deep creek was adequate to supply all the decreed rights until May 14. (North Deep Creek has only one priority and one diversion.) From May 14 on, the flow receded steadily until September 30 when only 8 percent of the priority was available.

During the month of April the flow in South Deep Creek fluctuated from 28 percent of the second priority to 60 percent of the third priority. All five priorities were filled for only 3 days (May 8 to May 10), after which the flow diminished. By June 10 only the first priority was satisfied. South Deep Creek continued to recede until September 30 when only 11 percent of the first priority was available.

Owl Creek. The total stream runoff available to Owl Creek users from April 1 to September 30 was 7,736 acre-feet, or approximately 117 percent of normal.

The streamflow during the month of April fluctuated from satisfying the tenth to fourteenth priorities with the average at the eleventh priority. On May 8 all 21 priorities were met, but due to cooler weather the flow dropped below the fourteenth priority on May 14, then began climbing again. On May 25 the flow met and exceeded the twenty-first priority, remaining above it until June 24. It then gradually receded until September 30 when the flow was down to the fourth priority.

Rader Creek. The total stream runoff available to Rader Creek users from April 1 to September 30 was 4,944 acre-feet, or approximately 136 percent of normal.

Streamflow served the third priority from April 1 to May 4, increased to serve the full seventh priority from May 7 to May 12, receded to the third priority on May 22, increased to serve the full seventh priority from May 26 to June 30, diminished rapidly to the third priority on July 3 and then receded gradually to about 60 percent of the first priority on September 30.

Eagle Creek. Eagle Creek supplied all four priorities to about June 1. By early July only first and second priority water was available. Flows receded by mid-September to first priority water which was available for the remainder of the season.

Emerson Creek. Total stream runoff available to Emerson Creek users from April 1 to September 30 was 5,111 acre-feet, or approximately 140 percent.

Streamflow was adequate from April 1 to June 12 to satisfy the fourth priority, after which the flow receded gradually. On September 30 approximately 12 percent of the second priority was served.

SURPRISE VALLEY WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 44

BIDWELL CREEK NEAR FORT BIDWELL

Day	March	April	May	June	July	August	September	Day
1	12	42	79	102	25	11	6.5	1
2	12	37	84	103	24	11	6.5	2
3	12	33	77	104	22	11	6.5	3
4	12	32	69	102	21	10	6.5	4
5	12	33	77	106	21	10	6.5	5
6	13	32	117	104	21	11	6.4	6
7	12	33	155	101	20	10	6.1	7
8	11	35	230	93	20	10	6.1	8
9	13	36	237	85	21	9.6	6.1	9
10	11	34	194	82	21	9.6	6.1	10
11	11	34	162	83	21	9.4	6.1	11
12	11	34	146	82	19	9.3	6.1	12
13	11	33	121	81	18	9.0	6.0	13
14	15	34	96	76	18	8.7	5.8	14
15	23	39	92	73	17	8.6	5.8	15
16	29	46	91	68	16	8.6	5.5	16
17	53	55	90	64	16	8.3	5.4	17
18	47	63	82	59	15	8.3	5.4	18
19	43	56	74	55	15	8.3	5.0	19
20	40	52	67	50	14	8.3	5.0	20
21	37	54	63	43	14	8.3	5.0	21
22	37	63	64	39	14	8.0	5.0	22
23	37	68	72	36	13	8.0	5.0	23
24	40	61	84	33	13	7.8	5.0	24
25	42	53	103	30	13	7.7	5.0	25
26	41	48	125	28	12	7.5	5.0	26
27	42	44	139	28	12	7.3	4.8	27
28	38	43	141	26	12	7.0	4.9	28
29	42	45	113	25	12	6.8	5.0	29
30	49	60	102	24	11	6.8	5.0	30
31	44		97		11	6.5		31
Mean	27.5	44.4	111	66.2	16.8	8.8	5.6	Mean
Runoff In Acre-Feet	1690	2642	6829	3937	1035	539	335	Runoff In Acre-Feet

SURPRISE VALLEY WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 45

MILL CREEK ABOVE ALL DIVERSIONS

Day	March	April	May	June	July	August	September	Day
1		14*	17	31	8.6	4.5	2.6	1
2		12	19	29	7.8	4.5	2.6	2
3		11	19	29	7.5	4.5	2.6	3
4		9.7	19	28	6.9	4.5	2.6	4
5		9.3	20	29	6.9	3.6	2.6	5
6		8.6	22	28	6.6	3.4	2.5	6
7		8.4	34	26	6.4	3.2	2.5	7
8		8.4	49	23	7.2	3.2	2.5	8
9		8.6	59	21	7.2	3.1	2.5	9
10		8.2	52	19	7.5	3.1	2.5	10
11		7.8	50	18	6.4	3.1	2.5	11
12		7.8	43	23	8.4	3.1	2.4	12
13		7.8	37	24	8.4	3.1	2.4	13
14		7.8	33	23	8.2	3.1	2.4	14
15		8.2	32	23	7.8	3.0	2.3	15
16		9.3	28	21	8.2	2.9	2.3	16
17		8.9	27	19	8.4	2.9	2.3	17
18		11	23	18	8.2	2.9	2.3	18
19		9.3	20	16	7.8	2.9	2.2	19
20		8.6	19	16	7.5	2.9	2.2	20
21		8.9	17	15	7.2	3.0	2.1	21
22		11	20	14	5.0	2.9	2.0	22
23		12	22	14	5.0	2.8	2.0	23
24		9.3	28	12	5.0	2.8	2.0	24
25		8.6	42	11	5.0	2.8	2.0	25
26		8.2	42	11	4.8	2.7	1.9	26
27		7.5	42	10	4.6	2.7	1.9	27
28		7.2	39	9.7	4.6	2.7	1.9	28
29		7.8	35	9.3	4.6	2.6	1.9	29
30		12	32	8.9	4.5	2.6	1.9	30
31			32		4.5	2.6		31
Mean		9.2	31	19	6.7	3.2	2.3	Mean
Runoff In Acre-Feet		550	1930	1148	410	194	136	Runoff In Acre-Feet

* Beginning of Record

TABLE 46

SOLDIER CREEK ABOVE ALL DIVERSIONS

Day	March	April	May	June	July	August	September	Day
1		8.5	30	17	4.1	2.4	1.7	1
2		9.5	27	17	4.1	2.3	1.7	2
3		9.8	27	17	3.8	2.3	1.7	3
4		10	27	16	3.8	2.9	1.7	4
5		10	28	16	3.6	2.9	1.7	5
6		9.0	31	18	3.6	2.2	1.7	6
7		8.5	35	15	3.6	2.2	1.7	7
8		10	35	13	3.9	2.2	1.6	8
9		9.6	32	11	4.1	2.2	1.6	9
10		8.1	31	11	4.0	1.7	1.6	10
11		8.5	30	10	3.8	1.7	1.7	11
12		8.1	26	10	3.6	1.7	1.7	12
13		9.6	23	10	3.6	1.7	1.7	13
14		10	20	10	3.5	1.7	1.7	14
15		10	18	9.0	3.5	1.7	1.8	15
16		12	16	8.5	3.4	1.7	1.8	16
17		16	14	7.8	3.3	1.7	1.7	17
18		20	12	7.8	3.0	1.7	1.7	18
19	13*	18	11	7.2	3.0	2.2	1.7	19
20	12	14	10	6.8	2.9	2.7	1.7	20
21	11	18	12	6.2	2.8	2.2	1.6	21
22	10	18	18	5.9	2.8	1.7	1.6	22
23	10	18	19	5.5	2.7	1.7	1.6	23
24	12	15	21	5.2	2.6	1.7	1.7	24
25	12	12	22	4.8	2.5	1.7	1.7	25
26	11	11	25	4.5	2.5	1.7	1.8	26
27	21	10	25	4.3	2.4	1.7	1.8	27
28	15	11	22	4.1	2.4	1.7	1.9	28
29	12	17	19	4.1	2.4	1.7	1.9	29
30	11	23	18	4.3	2.4	1.7	1.9	30
31	9.6		17		2.4	1.7		31
Mean	12.3	12.4	23	9.6	3.2	2.0	1.7	Mean
Runoff In Acre-Feet	316	738	1390	569	199	121	102	Runoff In Acre-Feet

* Beginning of Record

SURPRISE VALLEY WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 47

PINE CREEK AT DIVISION OF NORTH AND SOUTH CHANNELS

Day	March	April	May	June	July	August	September	Day
1		12	18	3.6	1.2	0.2		1
2		9.7	18	3.4	1.2	0.2		2
3		8.5	18	3.3	1.2	0.1		3
4		8.1	18	3.1	1.1	0.1		4
5		8.3	18	3.0	1.1	0.1		5
6		7.9	18	2.8	1.0	0.1		6
7		7.9	17	2.8	1.0	0.0**		7
8		8.7	16	2.6	1.0			8
9		12	17	2.5	0.9			9
10		9.1	14	2.5	0.8			10
11		10	13	2.4	0.7			11
12		10	10	2.3	0.6			12
13		10	8.2	2.1	0.6			13
14		11	7.7	2.0	0.5			14
15		13	6.6	1.9	0.5			15
16		15	5.7	1.9	0.5			16
17		16	5.4	1.9	0.5			17
18		16	4.7	1.9	0.4			18
19		13	4.0	1.8	0.4			19
20	14*	11	3.7	1.8	0.4			20
21	14	14	3.3	1.7	0.4			21
22	14	16	3.8	1.7	0.4			22
23	15	16	4.5	1.6	0.4			23
24	15	12	4.5	1.6	0.3			24
25	15	10	4.5	1.6	0.3			25
26	14	10	4.5	1.5	0.3			26
27	15	8.9	4.2	1.5	0.3			27
28	14	10	4.0	1.5	0.3			28
29	13	13	4.0	1.4	0.2			29
30	12	18	4.0	1.3	0.2			30
31	11		3.9		0.2			31
Mean	13.8	11.5	9.2	2.2	0.6	0.1		Mean
Runoff In Acre-Feet	329	684	568	129	37	2		Runoff In Acre-Feet

* Beginning of Record
** End of Record

TABLE 48

CEDAR CREEK NEAR CEDARVILLE

Day	March	April	May	June	July	August	September	Day
1	4.3	30	26	7.8	29	0.8	0.5	1
2	4.5	29	25	7.9	17	0.8	0.5	2
3	4.6	28	24	8.1	11	0.7	0.5	3
4	4.4	27	23	8.3	7.1	1.8	0.4	4
5	4.5	26	24	8.3	5.3	1.7	0.5	5
6	5.8	25	25	8.5	4.1	1.7	0.5	6
7	6.2	23	28	8.3	3.3	1.4	0.4	7
8	5.5	22	29	7.6	2.9	1.2	0.4	8
9	5.5	21	27	6.8	2.6	1.1	0.4	9
10	6.2	20	25	6.2	2.4	1.1	0.4	10
11	6.7	21	23	5.8	2.3	1.0	0.4	11
12	7.2	21	22	5.7	2.1	1.0	0.3	12
13	7.6	20	19	5.5	1.9	1.0	0.3	13
14	13	20	17	5.1	1.8	1.0	0.3	14
15	26	22	16	4.9	1.7	1.0	0.2	15
16	30	23	14	4.7	1.5	0.9	0.2	16
17	38	26	14	4.5	1.4	0.9	0.2	17
18	31	27	13	4.4	1.4	0.8	0.2	18
19	29	24	12	4.2	1.3	0.8	0.2	19
20	26	23	12	4.1	1.2	0.8	0.2	20
21	25	24	11	3.9	1.1	0.9	0.2	21
22	24	25	9.8	3.8	1.1	0.8	0.2	22
23	23	25	9.6	3.5	1.1	0.7	0.2	23
24	24	22	9.9	3.2	1.0	0.7	0.2	24
25	25	21	10	3.0	1.1	0.7	0.2	25
26	27	20	10	2.9	1.0	0.6	0.2	26
27	27	18	11	2.7	1.0	0.6	0.2	27
28	25	16	11	2.7	1.0	0.6	0.2	28
29	35	17	10	2.6	0.9	0.6	0.2	29
30	40	22	9.1	6.9	0.8	0.6	0.2	30
31	32		8.3		0.8	0.6		31
Mean	18.5	22.9	17.0	5.4	3.6	0.9	0.3	Mean
Runoff In Acre-Feet	1137	1365	1047	321	223	57	18	Runoff In Acre-Feet

SURPRISE VALLEY WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 49

NORTH DEEP CREEK ABOVE ALL DIVERSIONS

Day	March	April	May	June	July	August	September	Day
1		8.9*	8.9	7.6	2.2	1.0	0.6	1
2		9.1	9.0	7.6	2.0	1.0	0.6	2
3		9.1	8.9	7.3	1.9	0.9	0.6	3
4		9.0	8.7	7.3	1.8	0.9	0.7	4
5		8.7	8.9	7.5	1.8	1.3	0.7	5
6		8.6	9.5	7.1	1.7	1.6	0.7	6
7		8.5	9.7	6.8	1.7	1.3	0.7	7
8		8.4	9.9	6.6	1.9	1.1	0.8	8
9		8.2	9.8	6.4	2.0	1.0	0.8	9
10		7.9	9.7	6.0	2.0	1.0	0.8	10
11		8.0	9.6	5.7	1.8	1.0	0.8	11
12		7.9	9.4	5.7	1.8	1.0	0.8	12
13		7.8	8.9	5.5	1.7	0.9	0.9	13
14		7.8	8.7	5.2	1.6	1.0	0.9	14
15		7.9	8.5	5.2	1.6	0.9	0.9	15
16		8.2	8.0	4.9	1.4	0.9	0.9	16
17		8.5	7.8	4.4	1.4	0.9	0.9	17
18		8.6	7.4	4.2	1.4	0.9	0.9	18
19		8.7	6.9	4.2	1.4	0.9	0.8	19
20		9.0	6.2	4.2	1.3	0.9	0.8	20
21		8.7	6.2	3.8	1.3	0.9	0.8	21
22		8.5	6.4	3.4	1.3	0.9	0.8	22
23		8.3	6.4	3.2	1.2	0.9	0.8	23
24		8.0	6.6	2.8	1.2	0.8	0.8	24
25		8.0	7.3	2.6	1.1	0.8	0.8	25
26		7.9	7.6	2.6	1.1	0.7	0.7	26
27		7.8	7.9	2.4	1.0	0.7	0.7	27
28		7.6	7.9	2.2	1.0	0.6	0.7	28
29		7.6	7.9	2.2	1.0	0.6	0.7	29
30		8.2	7.9	2.2	1.0	0.6	0.7	30
31			7.8		0.9	0.6		31
Mean		8.3	8.2	4.9	1.5	0.9	0.8	Mean
Runoff In Acre-Feet		495	504	291	92	57	46	Runoff In Acre-Feet

* Beginning of Record

TABLE 50

SOUTH DEEP CREEK ABOVE ALL DIVERSIONS

Day	March	April	May	June	July	August	September	Day
1		12*	16	13	2.5	0.9	0.9	1
2		10	17	12	2.2	0.9	0.9	2
3		8.7	16	11	2.1	0.7	0.9	3
4		8.0	16	11	2.0	1.3	0.9	4
5		7.7	17	11	2.0	3.0	0.9	5
6		7.3	17	11	1.8	2.2	0.9	6
7		6.9	19	9.4	1.8	1.8	0.9	7
8		7.3	20	8.0	2.3	1.7	0.9	8
9		7.3	22	7.7	2.5	1.7	0.9	9
10		6.9	20	6.2	2.5	1.6	1.1	10
11		7.7	19	4.9	2.3	1.6	1.1	11
12		8.0	19	4.1	2.2	1.4	1.1	12
13		7.7	16	3.8	2.1	1.4	1.1	13
14		7.7	15	3.4	2.0	1.6	1.1	14
15		8.0	14	2.8	1.6	1.6	0.9	15
16		11	13	3.0	1.6	1.6	0.9	16
17		14	11	3.0	1.6	1.4	0.9	17
18		15	10	3.2	1.4	1.4	0.9	18
19		12	8.0	3.2	1.4	1.6	0.8	19
20		11	7.7	3.5	1.3	1.6	0.8	20
21		11	5.4	3.4	1.1	1.6	0.8	21
22		12	7.7	3.2	0.9	1.6	0.8	22
23		13	8.7	2.8	0.9	1.6	0.8	23
24		11	10	2.8	0.9	1.4	0.7	24
25		10	11	2.7	0.9	1.4	0.7	25
26		8.7	12	2.7	0.7	1.3	0.7	26
27		7.7	14	2.6	0.7	1.3	0.7	27
28		7.3	14	2.5	0.7	1.1	0.6	28
29		8.0	14	2.3	0.9	1.1	0.6	29
30		12	14	2.5	0.7	1.1	0.6	30
31			14		0.7	0.9		31
Mean		9.5	14.1	5.4	1.6	1.5	0.9	Mean
Runoff In Acre-Feet		565	868	323	96	90	51	Runoff In Acre-Feet

* Beginning of Record

SURPRISE VALLEY WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 51

OWL CREEK BELOW ALLEN-ARRECHE DITCH

Day	March	April	May	June	July	August	September	Day
1		12*	33	76	27	8.6	2.6	1
2		12	30	42	25	8.0	2.5	2
3		12	31	60	23	7.8	2.5	3
4		12	25	62	22	7.5	2.4	4
5		12	35	75	21	11	2.3	5
6		11	40	70	21	7.8	2.3	6
7		12	38	70	20	7.2	2.2	7
8		11	41	60	21	7.0	2.2	8
9		10	59	52	24	6.2	2.1	9
10		10	54	50	21	5.9	2.1	10
11		11	53	50	19	5.4	2.1	11
12		11	45	59	18	5.4	2.1	12
13		11	37	61	16	5.4	2.1	13
14		12	35	65	15	5.4	2.0	14
15		14	32	62	14	5.2	2.0	15
16		16	30	57	15	5.0	2.0	16
17		16	30	60	14	4.8	2.0	17
18		15	25	61	14	4.6	2.0	18
19		13	23	60	14	4.5	2.0	19
20		16	21	53	13	4.1	2.0	20
21		18	21	45	12	4.1	2.0	21
22		16	23	40	12	4.1	2.0	22
23		15	27	39	12	3.9	2.1	23
24		14	33	38	12	3.8	2.1	24
25		14	45	35	11	3.6	2.1	25
26		13	47	33	11	3.4	2.1	26
27		12	66	30	10	3.3	2.1	27
28		13	74	28	9.7	3.2	2.0	28
29		16	67	28	9.6	3.1	2.1	29
30		20	57	28	8.8	3.0	2.1	30
31			52		8.3	2.7		31
Mean		13.3	39.7	51.6	15.9	5.3	2.1	Mean
Runoff In Acre-Feet		793	2438	3072	979	327	127	Runoff In Acre-Feet

* Beginning of Record

TABLE 52

RADER CREEK ABOVE ALL DIVERSIONS

Day	March	April	May	June	July	August	September	Day
1		9.0E*	9.1	45	16	4.8	0.8	1
2		9.1	8.8	44	16	4.8	0.8	2
3		8.8	10	48	14	4.7	0.8	3
4		7.6	13	49	12	4.2	0.8	4
5		6.6	17	48	12	4.5	0.8	5
6		5.8	22	45	12	4.5	0.8	6
7		5.0	35	43	11	4.3	0.8	7
8		4.7	39	39	12	4.2	0.8	8
9		4.6	44	38	12	3.9	0.8	9
10		4.1	39	38	11	3.6	0.8	10
11		3.9	37	39	10	3.4	0.8	11
12		3.9	36	40	10	3.1	0.8	12
13		3.7	33	43	9.7	3.1	0.8	13
14		3.7	31	40	9.4	3.1	0.8	14
15		3.9	29	39	9.1	2.9	0.8	15
16		4.5	25	39	9.1	2.7	0.8	16
17		5.2	23	40	8.8	2.5	0.8	17
18		5.2	20	39	8.2	2.3	0.7	18
19		4.6	17	39	7.9	2.5	0.7	19
20		4.3	15	37	7.3	2.3	0.7	20
21		4.5	14	34	6.8	1.8	0.7	21
22		4.5	13	32	6.6	1.7	0.7	22
23		4.5	18	31	6.1	1.5	0.7	23
24		4.1	23	30	5.9	1.5	0.7	24
25		3.5	31	28	5.6	1.5	0.7	25
26		3.3	39	24	5.4	1.4	0.7	26
27		2.9	44	22	5.2	1.2	0.7	27
28		2.7	45	20	5.0	1.2	0.7	28
29		3.4	46	18	4.8	1.2	0.7	29
30		5.4	48	18	4.6	1.2	0.7	30
31			45		4.8	1.0		31
Mean		4.9	28.0	36.3	9.0	2.8	0.8	Mean
Runoff In Acre-Feet		292	1723	2160	552	172	45	Runoff In Acre-Feet

* Beginning of Record
E Estimated

SURPRISE VALLEY WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 53

EAGLE CREEK AT EAGLEVILLE

Day	March	April	May	June	July	August	September	Day
1								1
2								2
3								3
4								4
5								5
6								6
7								7
8								8
9								9
10								10
11								11
12								12
13								13
14								14
15		NO RECORD AVAILABLE FOR 1974 SEASON						15
16								16
17								17
18								18
19								19
20								20
21								21
22								22
23								23
24								24
25								25
26								26
27								27
28								28
29								29
30								30
31								31
Mean								Mean
Runoff In Acre-Feet								Runoff In Acre-Feet

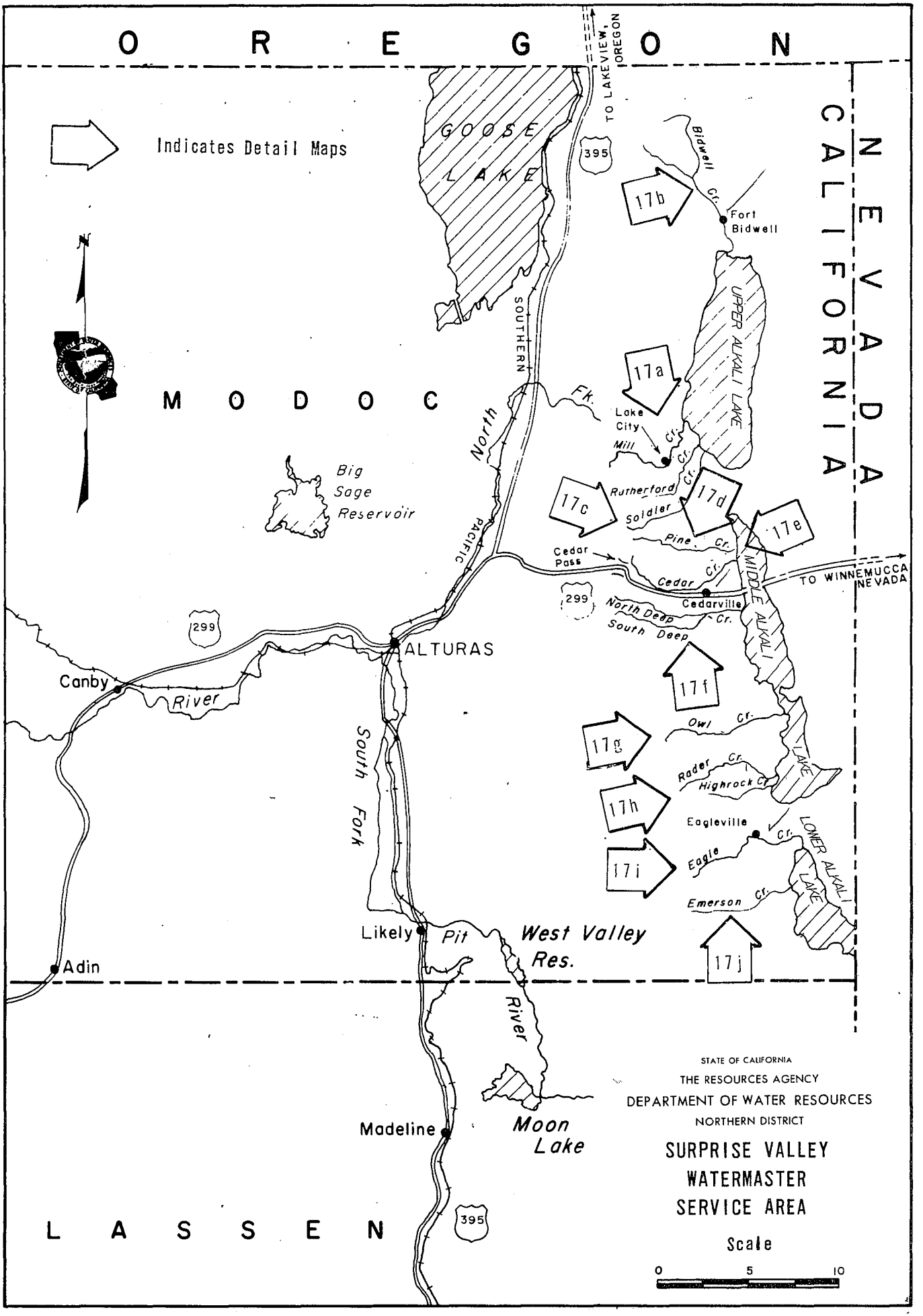
TABLE 54

EMERSON CREEK ABOVE ALL DIVERSIONS

Day	March	April	May	June	July	August	September	Day
1		28*	39	20	12	4.3	3.7	1
2		24	44	19	12	4.3	3.7	2
3		23	42	20	11	4.1	3.6	3
4		23	31	19	11	3.9	3.6	4
5		23	30	22	11	4.1	3.5	5
6		22	44	22	11	4.1	3.4	6
7		22	30	22	11	3.9	3.4	7
8		22	51	21	12	3.9	3.2	8
9		23	46	21	12	3.9	3.2	9
10		22	31	20	12	3.7	3.4	10
11		22	28	20	11	3.7	3.6	11
12		22	26	20	10	3.6	3.6	12
13		22	24	19	8.8	3.6	3.6	13
14		22	22	18	8.1	3.7	3.5	14
15		23	21	18	7.3	3.6	3.5	15
16		25	20	17	6.5	3.6	3.5	16
17		30	18	17	5.5	3.6	3.5	17
18		30	16	16	5.5	3.6	3.5	18
19		29	15	15	5.5	3.6	3.4	19
20		28	14	14	5.2	3.7	3.4	20
21		28	14	13	5.2	3.6	3.4	21
22		29	20	13	4.9	3.5	3.4	22
23		30	23	13	4.7	3.5	3.4	23
24		28	25	13	4.5	3.5	3.4	24
25		27	28	13	4.5	3.4	3.4	25
26		27	26	13	4.5	3.4	3.5	26
27		26	27	13	4.3	3.2	3.5	27
28		27	25	13	4.3	3.6	3.5	28
29		28	23	12	4.3	3.7	3.5	29
30		32	21	12	4.3	3.7	3.5	30
31			20		4.1	3.7		31
Mean		25.6	27.2	16.9	7.7	3.7	3.4	Mean
Runoff In Acre-Feet		1521	1674	1008	472	229	207	Runoff In Acre-Feet

* Beginning of Record

Figure 17


O R E G O N
CALIFORNIA
NEVADA
Indicates Detail Maps
GOOSE LAKE
TO LAKEVIEW, OREGON
395
Bidwell Cr.
Fort Bidwell
17b
17a
17c
17d
17e
17f
17g
17h
17i
17j
UPPER ALKALI LAKE
SOUTHERN PACIFIC
North Fk.
Lake City
Mill Cr.
Cr.
Rutherford
Soldier
Pine Cr.
Cedar Pass
Cedar Cr.
Cedarville
North Deep Cr.
South Deep
MIDDLE ALKALI
TO WINNEMUCCA NEVADA
299
MODOC
Big Sage Reservoir
ALTURAS
Canby
River
South Fork
Owl Cr.
Rader Cr.
Highrock Cr.
LAKE
Eagleville
Eagle Cr.
Emerson Cr.
LOWER ALKALI LAKE
Likely
Pit
West Valley Res.
Adin
River
Madeline
Moon Lake
LASSEN
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
SURPRISE VALLEY
WATERMASTER
SERVICE AREA
Scale
0 5 10

DIVERSIONS FROM
MILL CREEK, BROWN CREEK AND RUTHERFORD(Releford) CREEK
SURPRISE VALLEY WATERMASTER SERVICE AREA

DIVERSION NUMBER	NAME	CFS
2	C. Dixon	0.38
	H. Smith	0.24
3	N. Bettendorff	1.38
	N. McDaniels	0.13
	Domestic Users	0.08
4	J. Fogerty	0.30
	Mi Larson	0.26
5	C. Dixon	0.18
11,12,13,15,28	Town Users	1.92
17	N. Bettendorff	2.01
18	Town Users	0.33
20	V. Wimer	1.85
24	T. Dunton	1.45
26	E. Darst	1.85
29A,30 to 34	Town Users	1.62
Channel	Cockrells Inc.	10.30
Channel	G.W. Warrens	1.85
44,45 and 46	W. Gorzell	0.80
47	M. Toney	0.01
	W. Gorzell	0.575
	C. Gorzell	0.275
	N. Bettendorff	0.30
48	F. Hedgpeth	0.60
48 and 49	M. Toney	1.64
54	Cockrells Inc	0.40
55,56 and 57	Cockrells Inc	0.75)*
58	Cockrells Inc.	0.10)*
58 and 59	W. Odbert	0.90)*
59A	Cockrells Inc	0.35)*
61	G.W. Warrens	0.65
62	S. Burger	1.65**
Channel of Rutherford Creek	Cockrells Inc.	0.70
		37.13

* Water derived from Hay Collecting Ditch to be deducted from Decreed amount of direct diversion from Rutherford Creek.

** Not under Watermaster report

Figure 17a

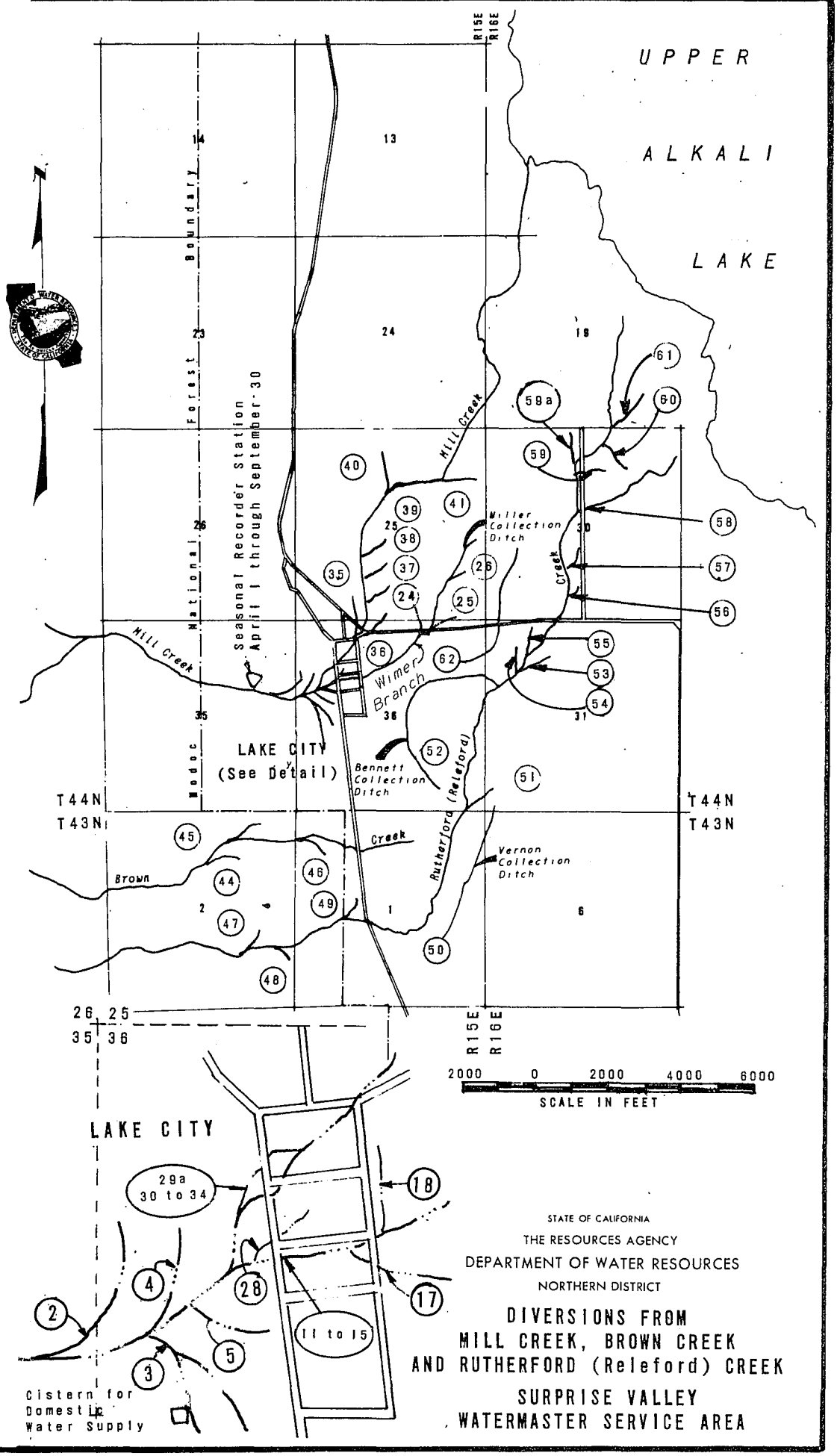
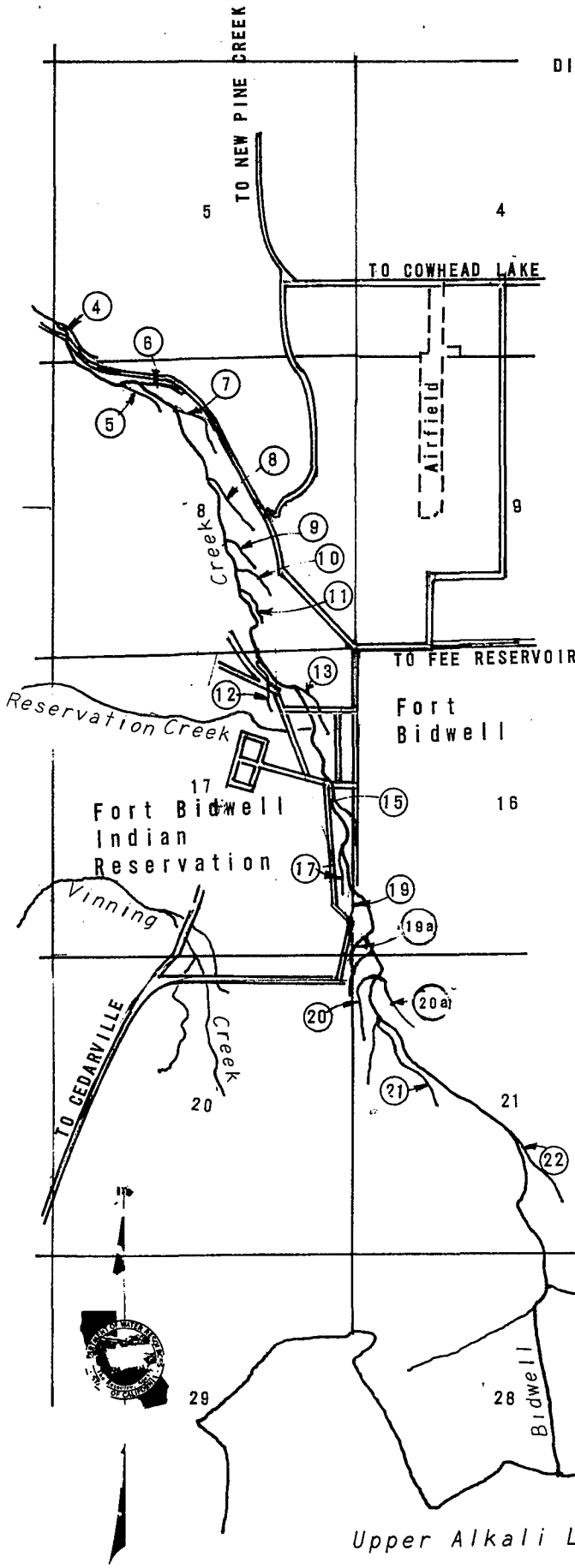

UPPER
ALKALI
LAKE
R15E
R16E
T44N
T43N
Boundary
Forest
National
Modoc
Seasonal Recorder Station
April 1 through September 30
Mill Creek
Miller Collection Ditch
Wimer Branch
Bennett Collection Ditch
Rutherford (Releford) Creek
Vernon Collection Ditch
Brown Creek
LAKE CITY
(See Detail)
LAKE CITY
29a
30 to 34
11 to 15
Cistern for Domestic Water Supply
2000 0 2000 4000 6000
SCALE IN FEET
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
MILL CREEK, BROWN CREEK
AND RUTHERFORD (Releford) CREEK
SURPRISE VALLEY
WATERMASTER SERVICE AREA

Figure 17b



DIVERSION NUMBER	NAME	CFS March 15 to July 9	CFS July 10 to Sept 30
4	Fort Bidwell Cattle Production Company	4.71	4.71
5	G. Peterson	0.38	0.35
	C. Bucher	0.45	0.35
	E. Uhrig	0.07	0.07
6	E. Uhrig	0.18	0.18
7	G. Peterson	0.50	0.40**
8	Fort Bidwell Cattle Production Company	7.24	7.24
	Town Users	0.06	0.06
9	J. McAuliffe	7.63	7.63
	Town Users	0.22	0.17
10	Carey Brothers	6.13	6.13
	C. Bucher	0.66	0.70*
	P. Peterson	0.44	0.44
	Town Users	0.30	0.24
11	C. Bucher	0.38	**
12	U.S. Indian Service	0.46	0.20
	Town Users	0.26	0.26
13	Fort Bidwell Cattle Production Company	5.24	5.24
	Town Users	0.44	0.44
15	Fee Ranch Inc.	8.94	8.94
	L. Sagehorn	1.34	3.94*
	M. O'Callaghan	2.88	2.88*
	G. Toney	0.42	0.42*
	Town Users	0.03	0.03
17	E. Kober	0.05	0.05
19	R. Cole	4.26	4.26
20	L. Sagehorn	1.10	1.10
	Carey Brothers	0.95	0.95*
21	L. Sagehorn	1.39	1.39
	Carey Brothers	0.48	0.48
22	M. O'Callaghan	0.38	0.38
23	L. Sagehorn	1.79	1.79
X	L. Sagehorn	If flow is less than 3.82 cfs deficiency is made up by additional diversions through (15) if Fee Ranch allottment is satisfied.	

Reservation Creek-U.S. Indian Service Entire Flow.

NOTE: Diversions (1), (2) and (3) are not shown as they are not part of the Watermaster Service Area.

* Includes 0.10 cfs stockwater right not to be diverted from creek.

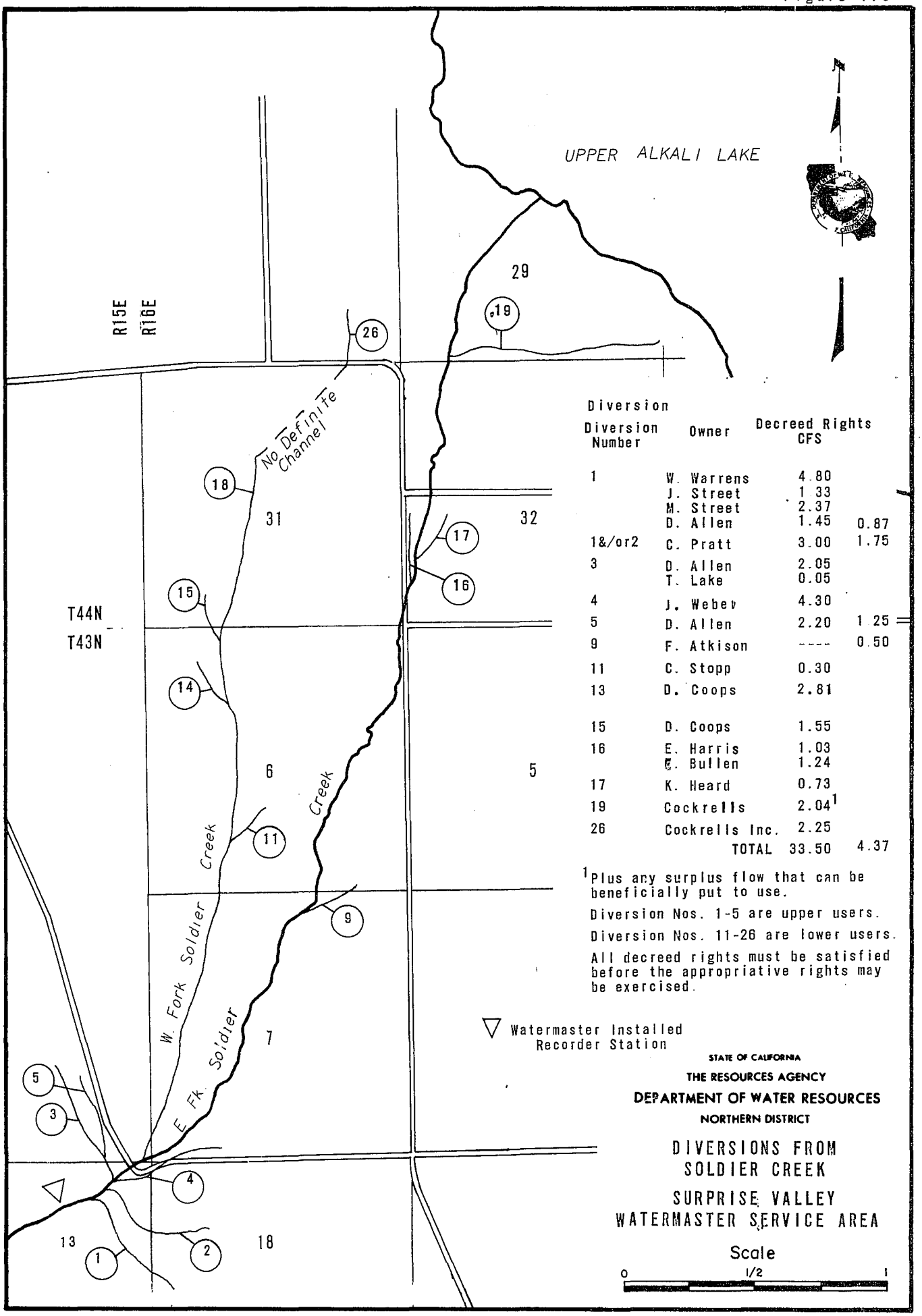
**Two 36 Hour periods of 2.00 cfs.

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM BIDWELL CREEK

SURPRISE VALLEY WATERMASTER SERVICE AREA

Figure 17c



Diversion

Diversion Number	Owner	Decreed Rights CFS	
1	W. Warrens	4.80	
	J. Street	1 33	
	M. Street	2.37	
	D. Allen	1.45	0.87
1&/or2	C. Pratt	3.00	1.75
3	D. Allen	2.05	
	T. Lake	0.05	
4	J. Webev	4.30	
5	D. Allen	2.20	1 25
9	F. Atkison	----	0.50
11	C. Stopp	0.30	
13	D. Coops	2.81	
15	D. Coops	1.55	
16	E. Harris	1.03	
	E. Bullen	1.24	
17	K. Heard	0.73	
19	Cockrells	2.04[1]	
26	Cockrells Inc.	2.25	
	TOTAL	33.50	4.37

[1] Plus any surplus flow that can be beneficially put to use.

Diversion Nos. 1-5 are upper users.

Diversion Nos. 11-26 are lower users.

All decreed rights must be satisfied before the appropriative rights may be exercised.

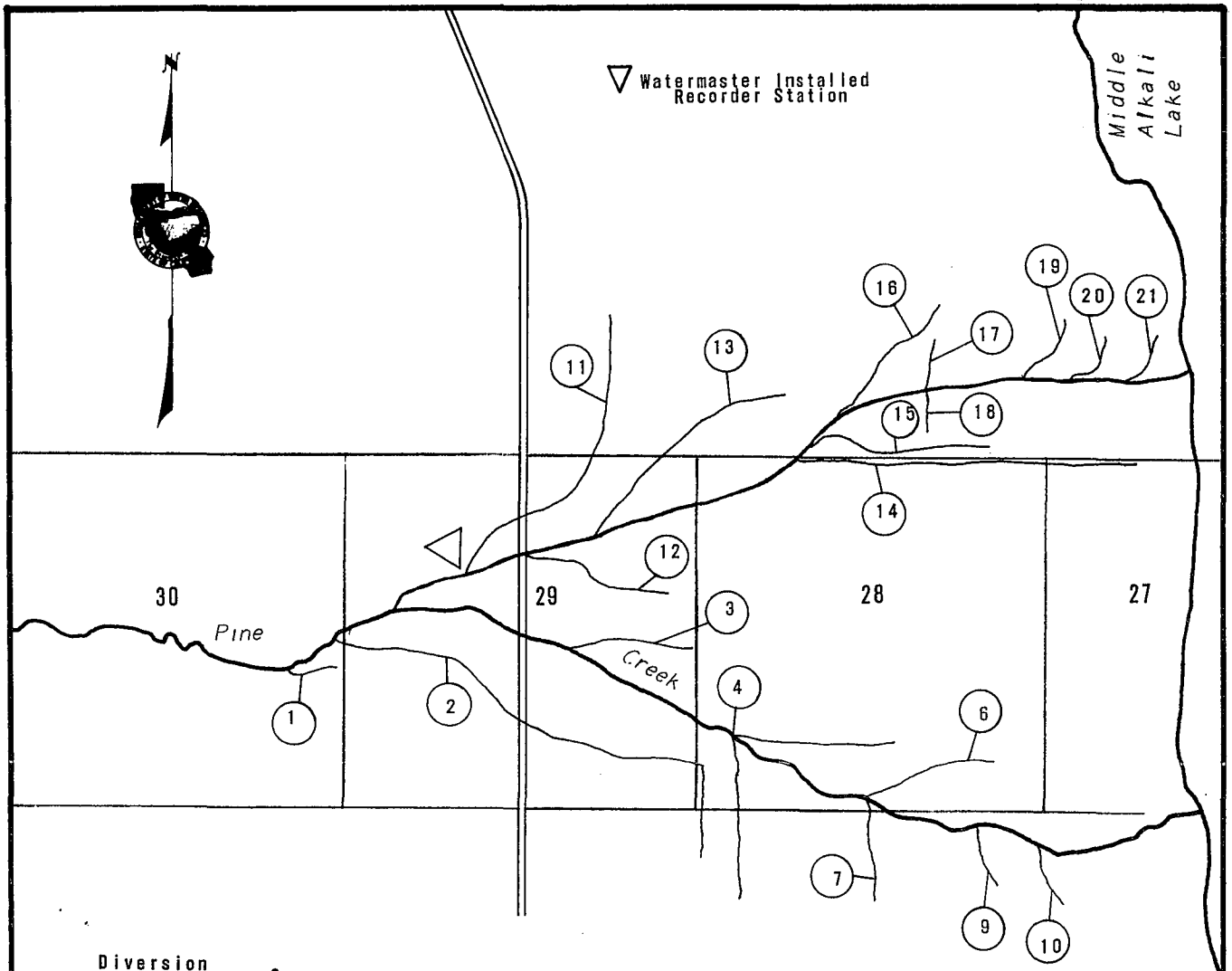
▽ Watermaster Installed Recorder Station

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM SOLDIER CREEK
SURPRISE VALLEY
WATERMASTER SERVICE AREA

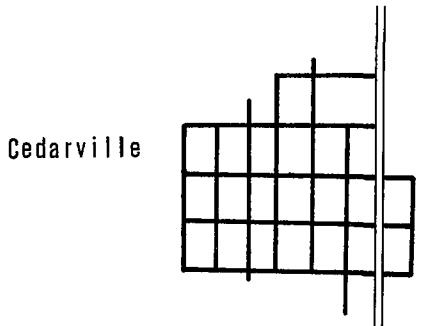
Scale
0 1/2 1

Figure 17d



Diversion Number	Owner	CFS
1	Cal Vada Ranch	0.08 cfs
2	R. Bordwell	When flow is 1.6 cfs or less
17-21	Cal Vada Ranch	When flow= 1.6 cfs to 4.0 cfs When flow is greater than 4.0 cfs rotation as follows:
1; 11; 13-21	Cal Vada Ranch	345.5 Acre-feet
3; 14	C. Marx	60.0 Acre-feet
3; 6-10	C. Hill	206.6 Acre-feet
2; 4	R. Bordwell	78.4 Acre-feet
12	V. McCully	2.5 Acre-feet
	TOTAL	693.0 Acre-feet (Total 1st & 2nd rotations)

T43N; R16E



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM PINE CREEK

SURPRISE VALLEY WATERMASTER SERVICE AREA

Scale
0 1/2 1

Figure 17e

Diversion Number	Owner	CFS
1	J. Weber	5.00
3	G. Clark	2.65
3	Laxague Bros.	0.50
6	A. Wylie W. Warrens	5.95
8	B. Bunyard	2.30
8	C. Kimbel	1.40
8	D. Ferguson	0.80
9	L. Sharrow	1.50
10	R. Seibel	2.60
11-11A	G. Ash	4.00
	Channel F. Arreche	1.10
	Channel C. Hill	1.10
	TOTAL	28.90*

Note: *Includes 5.00 CFS imported from Thoms Creek

▽ Permanent Recorder Station

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM CEDAR CREEK

SURPRISE VALLEY WATERMASTER SERVICE AREA

Scale
0 1/2 1

Figure 17f

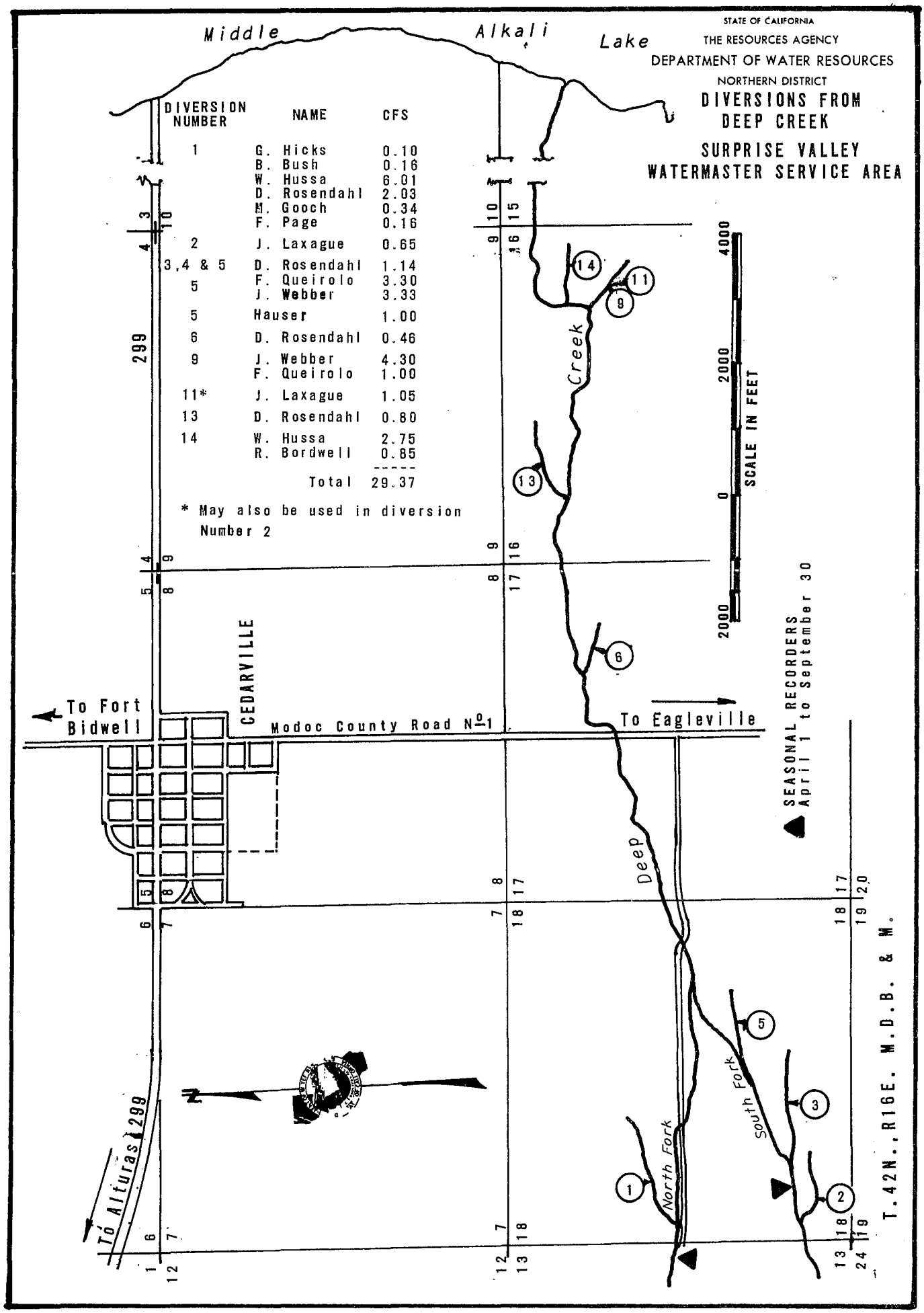
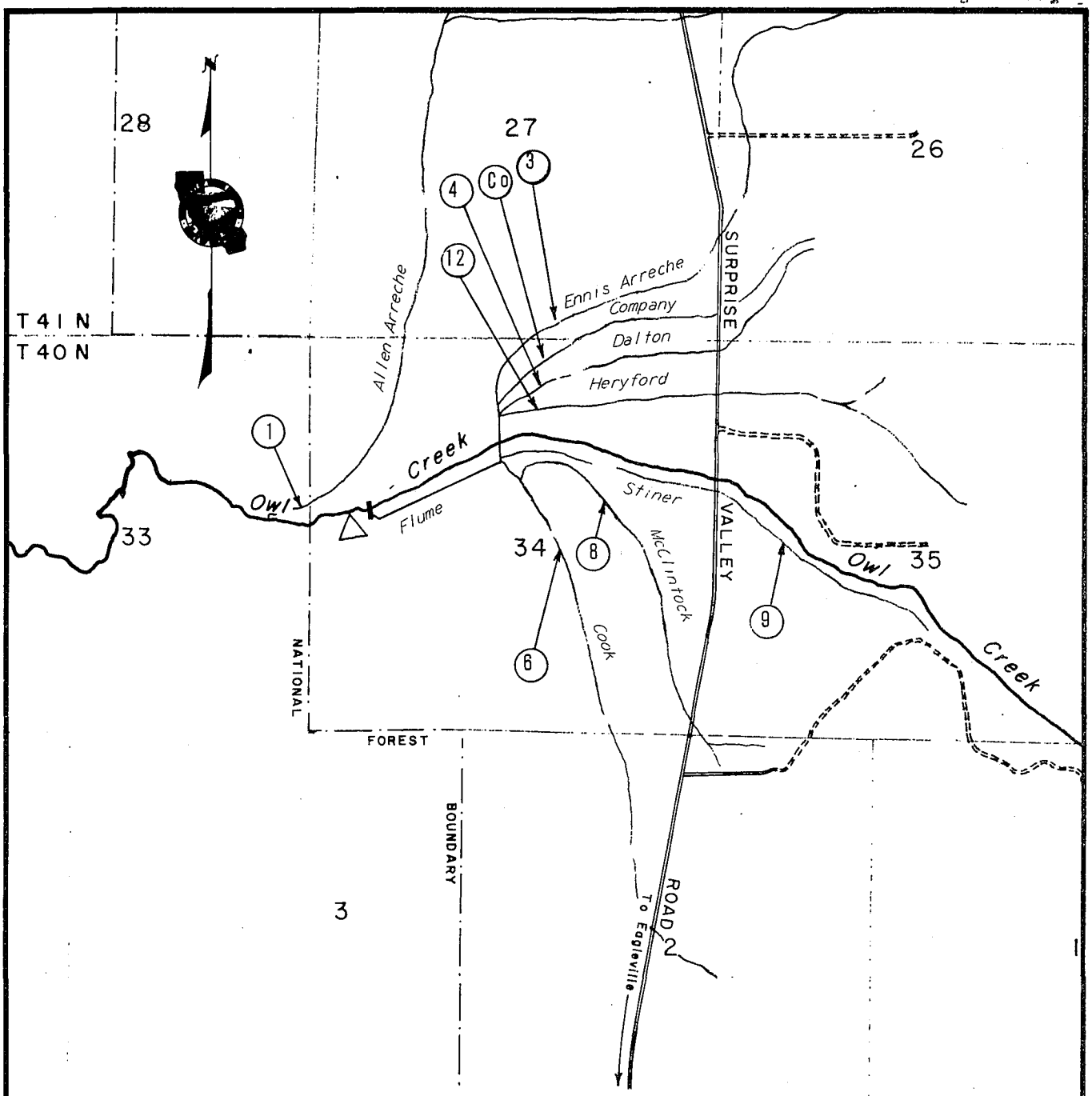

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM DEEP CREEK
SURPRISE VALLEY WATERMASTER SERVICE AREA
Middle Alkali Lake
DIVERSION NUMBER | NAME | CFS
1 | G. Hicks | 0.10
B. Bush | 0.16
W. Hussa | 6.01
D. Rosendahl | 2.03
M. Gooch | 0.34
F. Page | 0.16
2 | J. Laxague | 0.65
3,4 & 5 | D. Rosendahl | 1.14
5 | F. Queirolo | 3.30
J. Webber | 3.33
5 | Hauser | 1.00
6 | D. Rosendahl | 0.46
9 | J. Webber | 4.30
F. Queirolo | 1.00
11* | J. Laxague | 1.05
13 | D. Rosendahl | 0.80
14 | W. Hussa | 2.75
R. Bordwell | 0.85
Total | 29.37
* May also be used in diversion Number 2
SCALE IN FEET
4000
2000
0
2000
SEASONAL RECORDERS
April 1 to September 30
CEDARVILLE
To Fort Bidwell
Modoc County Road No. 1
To Eagleville
To Alturas
299
Deep Creek
North Fork
South Fork
T.42N., R16E. M.D.B. & M.

Figure 17g



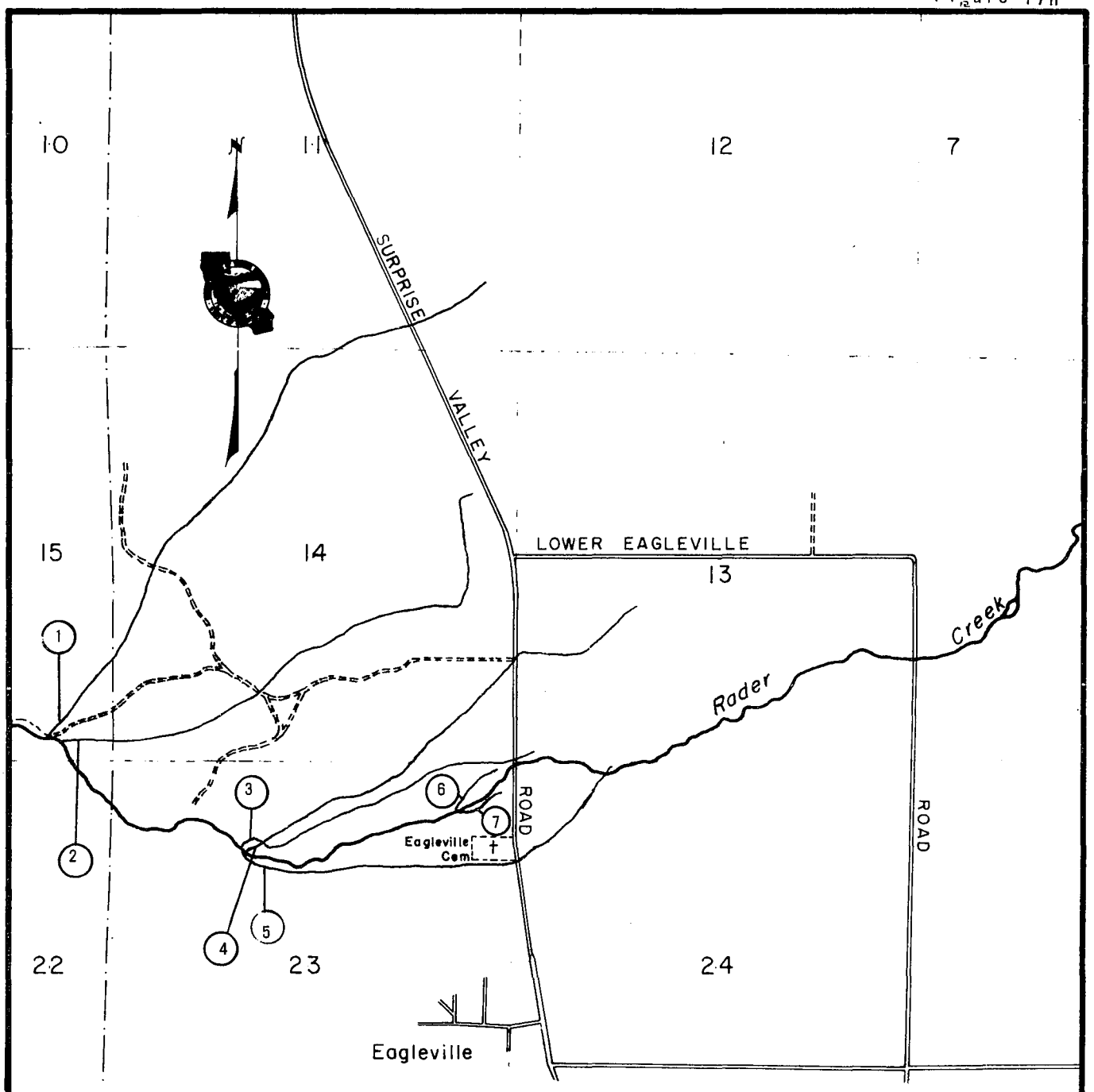
Diversion Number	Owner	CFS
1	W Cockrell	2 47
	J Stevenson	1 81
3	E. Davis	1 16
	J. Stevenson	2 25
4	E. Davis	3 14
5	S Stevenson	1 26
	B. Radabaugh	1 81
	H Stanley	0 99
6 & 8	Cockrell's Inc	17 62
9	E, Berryessa	3 17
12	E. Berryessa	5 48
	Total	41 70 cfs

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM OWL CREEK
SURPRISE VALLEY WATERMASTER SERVICE AREA

Scale of Feet
0 1000 2000

Figure 17h



T44N ,R16E M.D.B.& M

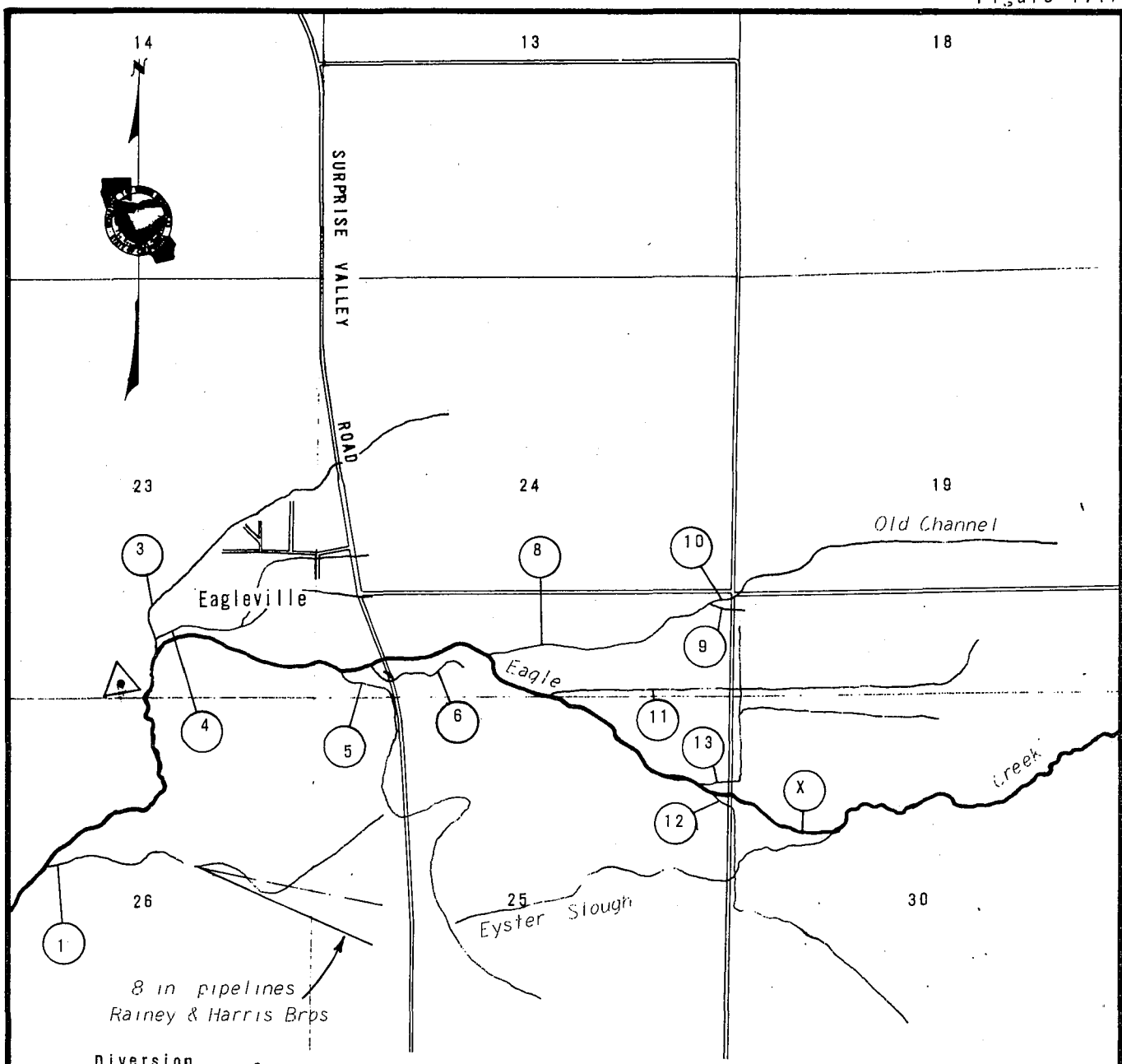
Diversion Number	Owner	CFS
1	L. Cockrell	1/7 of total flow from May 20, until water will not reach place of use. 3.00
2	Lazy S.J. Ranch Inc.	3.50
3	E. Minto	2.39
4	Betford Corp.	9.00
5	Betford Corp.	2.35
6	C. Minetti	0.08
7	R. Reeves	0.08
	Total	21.00

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM RADER CREEK
SURPRISE VALLEY WATERMASTER SERVICE AREA

Scale of Feet
0 1000 2000

Figure 17ir



Diversion Number	Owner	CFS	
1	Harris Bros.	0.41	
	R. Morgan	0.36	
	C. Rainey	0.51	
3	13 Town users	0.98	
	Betford Corp.	5.00	
4	15 Town users	1.36	
	Betford Corp.	1.20	
5	Harris Bros.	0.50	
6, 8	Betford Corp.	2.65	
9	Lazy S J Ranch	0.15	
10	M. Stevenson	3.15	(minus any water recieved from prior collecting ditch)
11	Betford Corp.	0.55	
	Lazy SJ Ranch	1.95	
	J. Grove	0.20	
12	J. Grove	0.70	
	M. Miura	1.20	
13	J. Grove	2.00	
X	Harris Bros.	6.90	(any water over 0.7 cfs from Eyster Slough must be deducted from this)

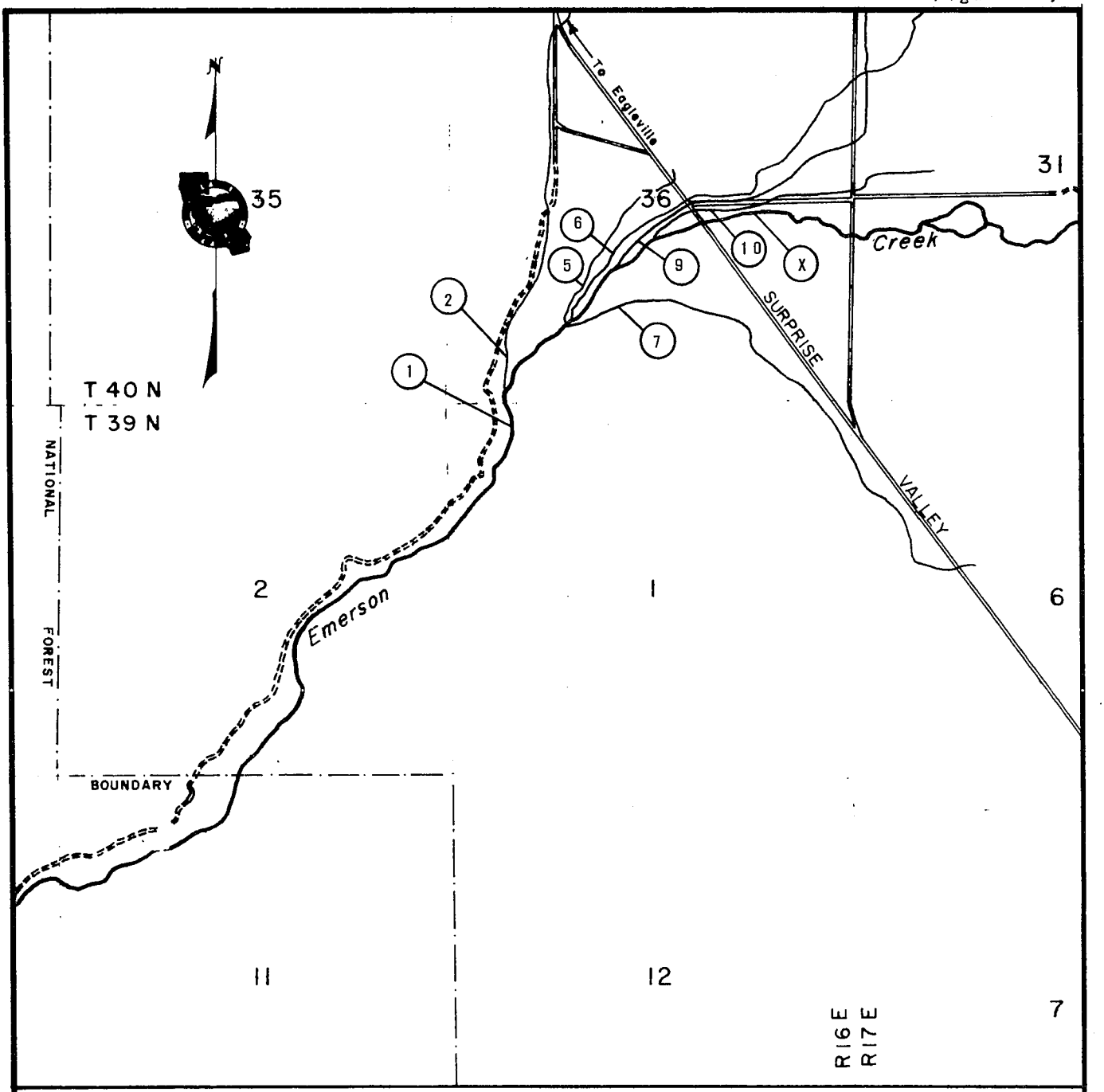
T44N., R16E. M.D.B.&M

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM EAGLE CREEK
SURPRISE VALLEY WATERMASTER SERVICE AREA

Scale of Miles
0 1

Figure 17j



Diversion Number	Owner	CFS
1	C. Rainey	2.00
2	Harris Bros	2.00
	D. Romagnoli	0.20
5	J. Diconda	3.30
6	Lazy S J Ranch Inc.	0.60
	J. Miura	2.25
7	E. Derryessa	5.15
9	W. Warren	1.60
10	J. Espil	1.80
X	D. Grove	5.75
	TOTAL	24.65

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM EMERSON CREEK
SURPRISE VALLEY WATERMASTER SERVICE AREA

Scale of Feet
0 1000 2000

Susan River Watermaster Service Area

The Susan River service area is situated in southern Lassen County in the vicinity of Susanville. The primary area of water use is in Honey Lake Valley between Susanville and the northwest shore of Honey Lake, a distance of about 25 miles. The valley floor is at an elevation of about 4,000 feet. The source of supply is comprised of three stream systems: the Susan River, Baxter Creek, and Parker Creek, with their respective tributaries.

The Susan River originates on the east slope of the Sierra Nevada immediately east of Lassen National Park at an elevation of about 7,900 feet. Its channel runs easterly from Silver Lake through McCoy Flat Reservoir, the town of Susanville, and then to Honey Lake.

The Susan River has four major tributaries: Piute Creek, entering from the north at Susanville; Gold Run and Lassen Creeks, entering from the south between Susanville and Johnstonville; and Willow Creek, entering from the north above Standish. Gold Run and Lassen Creeks rise on the north slope of Diamond Mountain at an elevation of about 7,600 feet. The watersheds of Piute and Willow Creeks are on the south slopes of Round Valley Mountain at lower elevations.

A short distance below its confluence with Willow Creek, the Susan River divides into three channels: Tanner Slough Channel on the north, Old Channel in the middle, and Dill Slough Channel on the south. Hartson Slough and Whitehead Slough divert from Dill Slough on its south bank farther downstream.

The Baxter Creek stream system is in Honey Lake Valley on the east slope of the Sierra Nevada, about 10 miles southeast of Susanville. The principal creeks in the system are: Baxter Creek, which rises in the extreme western portion of the basin and flows in an easterly direction, and Elesian, Sloss, and Bankhead Creeks, tributaries of Baxter Creek from the south.

Parker Creek is also in Honey Lake Valley on the east slope of the Sierra Nevada, about 15 miles southeast of Susanville. It rises on the east slope of Diamond Mountain and flows in an easterly direction for about 5 miles into Honey Lake.

Maps of the Susan River service area, showing the stream systems, diversions, etc., are presented as Figures 18 through 18f, pages 160 through 167.

Basis of Service

The waters of Susan River and its tributaries are distributed in accordance with the water rights defined in Decree No. 4573, Lassen County Superior Court, entered on April 18, 1940. Schedule 3 of the decree defines the rights to the use of water from Willow Creek in Willow Creek Valley, Lower Willow Creek, and the Susan River delta below the Colony Dam. Schedule 4 of the decree defines the rights to the use of water from Gold Run, Piute, Hills, Holtzclaw, and Lassen Creeks above their confluence with the Susan River. Schedules 5 and 6 of the decree define the rights to the use of water from the Susan River exclusive of its tributaries. The decree establishes three priority classes each on Susan River and Gold Run Creek, two on Willow Creek, and one each on Piute and Hills Creeks.

The water of Baxter Creek and its tributaries is distributed in accordance with the water rights defined in the statutory adjudication as set forth in Decree No. 8174, Lassen County Superior Court, dated December 15, 1955. Schedule 3 of the decree defines the rights to the use of water from Sloss and Bankhead Creeks and

Schedule 4 the rights to the use of water from Baxter and Elesian Creeks. The Baxter Creek rights are divided into five priority classes.

The water of Parker Creek and its tributaries is distributed in accordance with the water rights defined by a statutory adjudication as set forth in Decree No. 8175, Lassen County Superior Court, dated December 15, 1955. Schedule 3 of the decree defines the rights to the use of water from Parker Creek, with four priority classes.

The Susan River watermaster service area was created by order of the Division of Water Resources on November 10, 1941. The Baxter and Parker Creek stream systems were added to the Susan River service area on February 16, 1956. There are 160 water right owners in the service area with total allotments of 351.732 cubic feet per second.

Water Supply

The water supply in the Susan River service area is obtained from two major sources, snowmelt runoff and springs. Snowpack on the Willow Creek Valley and Piute Creek watersheds, which embrace more than one-half of the Susan River stream system, melts early in the spring and is usually depleted by May 1. Irrigation requirements from this portion of the stream system are then almost entirely dependent on the flow of springs that are relatively constant throughout the year.

Under average flow conditions, Lassen, Gold Run, Baxter, and Parker Creeks and the Susan River above Susanville are sustained by snowmelt runoff until early June. The flow from perennial springs in this portion of the system is comparatively small.

The Lassen Irrigation Company stores supplemental water in Hog Flat and McCoy Flat Reservoirs, on the headwaters of the Susan River. This stored water is released into the Susan River Channel and commingled with the natural flow, usually during June and July. It is then rediverted into Lake Leavitt for further distribution by the irrigation Company.

Records of daily mean discharge of the several stream gaging stations in the service area are presented in Tables 55 through 59, pages 157 through 159.

Method of Distribution

Irrigation in the Susan River service area is accomplished by placing dams in the main channels, thus raising the water level for subsequent diversion into canals and ditches. These diversion dams are relatively large on the Susan River Channel and generally much smaller on the various creeks. Wild flooding is the most common method of irrigation in practice. Portions of the irrigated lands have been leveled, permitting a more efficient use of water by using border checks and furrows. Subirrigation occurs in some areas incidental to surface irrigation or as a result of seepage from ditches and creek channels.

The Lassen Irrigation Company is allowed to use its three reservoirs, McCoy Flat, Hog Flat and Lake Leavitt, to store water as follows: (a) between March 1 and July 1 when the flow in the river just above its confluence with Willow Creek is more than 20 cubic feet per second, and (b) at all other times when the flow at the same point is 5 cubic feet per second, in spite of the allotments outlined in Schedules 3, 6, and users of third priority class in Schedule 5 of the Susan River decree.

1974 Distribution

Watermaster service began in the Susan River service area on April 1 and continued until September 30 with Lester L. Lighthall, Water Resources Technician II, as watermaster.

The available natural water supply throughout the service area was

above average. An unusually heavy snowfall during March brought the snow survey measurements to above normal for the Susan River watershed. Many ranchers in the Honey Lake area reported record hay crops.

Parker Creek. The available water supply in Parker Creek was sufficient to satisfy all allotments (four priorities) until June 3. From June 3 to July 16 the flow decreased to first priority allotments. From July 16 throughout the remainder of the season only first priority allotments were served.

Baxter Creek. The available water supply in Baxter Creek was sufficient to supply all allotments (five priorities) until June 10. The flow rapidly decreased from June 10 to July 12 when approximately 60 percent of second priority allotments were supplied. The flow at Diversion 75 dropped to 1 cfs on July 25. From July 25 for the remainder of the season only stockwater allotments were served.

Lassen-Holtzclaw Creeks. The available water supply in Lassen-Holtzclaw Creeks was sufficient to meet all allotments (two priorities) until June 25. The flow decreased to first priority allotments on July 23. From July 23 throughout the remainder of the season the Tangeman Ranch was entitled to all of the water available in the stream.

Hills Creek. The available water supply in Hills Creek was sufficient to supply all allotments (one priority) until June 27, and all storage facilities on Hills Creek were filled by this date. First priority water declined until August 10 when only stockwater was available.

Gold Run Creek. The available water supply in Gold Run Creek was sufficient to supply allotments (three priorities) until June 25. Between June 25 and August 20, the flow decreased steadily. After August 20, the flow remained reasonably constant at about 15 percent of second priority allotments.

Piute Creek. The available water supply in Piute Creek was sufficient to satisfy all allotments (one priority) and provide a small surplus flow to the Susan River throughout the season.

Willow Creek. The available water supply in Willow Creek was sufficient to supply all allotments (two priorities) throughout the season.

Susan River. The available water supply in the Susan River was sufficient to supply all allotments in Schedule 6 (three priorities) until June 22. As the flow receded, Schedule 6 was terminated for the season. All allotments in Schedule 3 (three priorities - Lower Susan River) were satisfied until August 6. Throughout the remainder of the season there was enough water for about 60 percent of second priority allotments in this schedule.

All allotments in Schedule 5 (three priorities - Upper Susan River area) were satisfied until July 10. The flow receded until August 1 when there was enough water for about 15 percent of the second priority allotments. Throughout the remainder of the season the flow remained constant.

Lassen Irrigation Company Reservoirs. The Susan River decree allows the Lassen Irrigation Company's McCoy Flat and Lake Leavitt Reservoirs to store surplus water during the winter and spring months. Once filled, or if a shortage occurs among downstream water right owners, the natural flow in the Susan River above McCoy Flat Reservoir must be released.

During spring runoff these two reservoirs filled to capacity. Shortages began to occur in mid-June and the company requested that its releases to Lake Leavitt from Hog Flat Reservoir begin. Controlled releases began on June 19 and continued until August 12, at which time Hog Flat Reservoir was emptied. Releases from McCoy Flat Reservoir began on July 16 and continued until September 6.

Special Occurrences

The Susan River recorder station at Johnstonville Bridge was relocated downstream approximately 1 mile at Diversion 44 dam.

The Susan River was cleaned with a dragline to assure proper distribution of water at Tanner and Dill Sloughs.

SUSAN RIVER WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 55

SUSAN RIVER AT SUSANVILLE

Day	March	April	May	June	July	August	September	Day
1	460	888	473	317	98	77	94	1
2	360	747	516	305	93	64	92	2
3	270	652	550	294	88	73	93	3
4	225	565	570	285	85	73	92	4
5	185	525	598	277	81	80	91	5
6	162	471	664	265	78	78	90	6
7	155	435	765	249	75	73	47	7
8	152	424	813	229	97	74	17	8
9	148	428	837	211	93	74	12	9
10	155	382	795	185	91	74	11	10
11	170	368	724	145	77	73	11	11
12	182	372	658	127	73	75	10	12
13	200	356	592	124	70	76	11	13
14	235	350	459	120	67	77	11	14
15	344	362	256	118	66	80	11	15
16	372	382	247	117	71	81	11	16
17	414	420	263	113	78	81	10	17
18	498	459	277	105	87	81	10	18
19	414	430	292	109	86	82	10	19
20	359	423	282	159	86	75	10	20
21	320	433	263	149	83	67	10	21
22	302	475	254	144	81	60	10	22
23	290	520	248	139	82	55	10	23
24	287	498	251	134	79	50	9.8	24
25	302	457	254	129	76	45	9.8	25
26	323	410	268	124	73	40	9.8	26
27	435	377	289	118	69	35	10	27
28	459	359	307	114	66	29	11	28
29	1100	368	319	107	62	74	10	29
30	2270	405	326	103	59	95	10	30
31	1040		338		62	96		31
Mean	406	458	443	171	78.5	69.9	28.1	Mean
Runoff In Acre-Feet	24970	27260	27270	10150	4820	4300	1670	Runoff In Acre-Feet

TABLE 56

GOLD RUN CREEK NEAR SUSANVILLE

Day	March	April	May	June	July	August	September	Day
1		68*	37	84	10	4.5	3.3	1
2		62	43	84	9.8	4.5	3.3	2
3		56	43	84	9.4	4.4	3.3	3
4		50	43	84	9.0	4.4	3.3	4
5		47	45	81	8.8	4.3	3.3	5
6		43	50	81	8.8	4.5	3.2	6
7		40	79	77	8.6	4.4	3.2	7
8		40	84	72	10	4.3	3.2	8
9		40	81	66	11	4.2	3.2	9
10		38	66	62	9.8	4.0	3.2	10
11		36	60	62	8.6	3.9	3.2	11
12		36	61	62	7.5	3.8	3.2	12
13		36	61	62	6.6	3.7	3.2	13
14		36	61	61	5.8	3.7	3.2	14
15		36	62	59	5.8	3.7	3.2	15
16		36	61	56	5.8	3.6	3.1	16
17		36	61	53	5.8	3.6	3.1	17
18		36	61	50	5.8	3.6	3.1	18
19		37	58	47	5.8	3.5	3.1	19
20		37	59	43	6.0	3.5	3.1	20
21		37	51	39	6.0	3.5	3.1	21
22		37	50	37	5.8	3.5	3.1	22
23		37	50	36	5.8	3.4	3.1	23
24		37	50	30	5.6	3.4	3.1	24
25		36	59	23	5.6	3.4	3.2	25
26		36	68	20	5.4	3.3	3.2	26
27		36	75	16	5.3	3.3	3.2	27
28		36	75	11	5.2	3.3	3.2	28
29		36	96	11	5.2	3.3	3.2	29
30		36	92	10	4.9	3.3	3.2	30
31			89		4.7	3.3		31
Mean		40.3	62.3	52.1	7.0	3.8	3.2	Mean
Runoff In Acre-Feet		2400	3830	3100	433	232	190	Runoff In Acre-Feet

* Beginning of Record

SUSAN RIVER WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

TABLE 57

SUSAN RIVER BELOW JOHNSTONVILLE BRIDGE[1/]

Day	March	April	May	June	July	August	September	Day
1			409	136	25	4.7	6.3	1
2			518	106	24	3.1	5.7	2
3			505	106	24	3.6	5.7	3
4			527	132	23	4.2	5.2	4
5			540	136	22	4.7	5.2	5
6			601	126	22	6.8	4.2	6
7			737	126	21	5.2	3.1	7
8			800	132	21	5.2	4.2	8
9			850	136	21	5.2	4.2	9
10			830	121	26	5.2	3.1	10
11			770	84	35	4.7	3.1	11
12			715	74	37	4.7	3.1	12
13			610	65	20	4.7	3.1	13
14			470	61	11	4.2	3.7	14
15			335	58	7.7	4.2	4.2	15
16			332	53	5.0	4.7	4.7	16
17		436*	328	50	5.7	4.7	4.7	17
18		540	324	45	6.2	4.7	4.7	18
19		465	321	45	5.2	6.3	4.7	19
20		432	318	53	4.7	6.8	4.7	20
21		438	314	50	4.7	9.0	4.2	21
22		511	311	53	4.7	8.0	3.1	22
23		514	308	61	4.7	4.2	2.1	23
24		533	304	74	4.7	3.1	2.6	24
25		463	300	79	4.2	3.1	2.1	25
26		397	297	74	3.6	3.1	2.6	26
27		357	294	74	3.6	3.1	3.1	27
28		381	290	50	2.6	2.6	3.7	28
29		330	288	26	2.6	8.5	2.1	29
30		322	284	26	3.1	10	2.6	30
31			233		3.1	6.3		31
Mean		437	454	80.4	13.2	5.1	3.9	Mean
Runoff In Acre-Feet		12140	27890	4780	809	315	230	Runoff In Acre-Feet

* Beginning of Record

1/ This station was relocated from Johnstonville Bridge downstream one mile on April 17, 1974.

TABLE 58

WILLOW CREEK NEAR SUSANVILLE

Day	March	April	May	June	July	August	September	Day
1	146	166	26	17	13	13	16	1
2	265	189	20	16	12	13	16	2
3	206	155	17	15	12	13	16	3
4	175	121	16	14	12	13	16	4
5	152	102	16	14	12	14	16	5
6	170	89	17	14	12	14	16	6
7	203	77	17	14	12	13	16	7
8	176	68	16	14	13	15	16	8
9	149	61	16	13	14	16	15	9
10	136	57	15	13	16	15	14	10
11	136	53	15	13	16	16	13	11
12	155	51	16	13	19	16	12	12
13	155	48	15	12	20	16	12	13
14	152	46	15	12	18	16	12	14
15	134	43	16	12	16	16	12	15
16	121	41	15	12	16	16	12	16
17	112	24	16	12	16	16	12	17
18	121	21	16	13	16	16	12	18
19	98	21	16	13	15	16	12	19
20	83	21	17	15	15	16	13	20
21	73	22	19	15	15	18	13	21
22	66	22	21	15	14	17	13	22
23	59	21	23	14	14	18	13	23
24	55	21	24	14	14	18	13	24
25	52	22	24	14	13	18	13	25
26	50	26	23	13	13	19	13	26
27	30	30	22	12	13	19	13	27
28	29	33	20	13	13	19	12	28
29	43	32	19	12	13	18	12	29
30	135	29	18	13	13	16	12	30
31	166		18		13	16		31
Mean	123	57.1	18.2	13.5	14.3	16.0	13.5	Mean
Runoff In Acre-Feet	7540	3400	1120	805	879	982	805	Runoff In Acre-Feet

SUSAN RIVER WATERMASTER SERVICE AREA

1974 Daily Mean Discharge in Cubic Feet Per Second

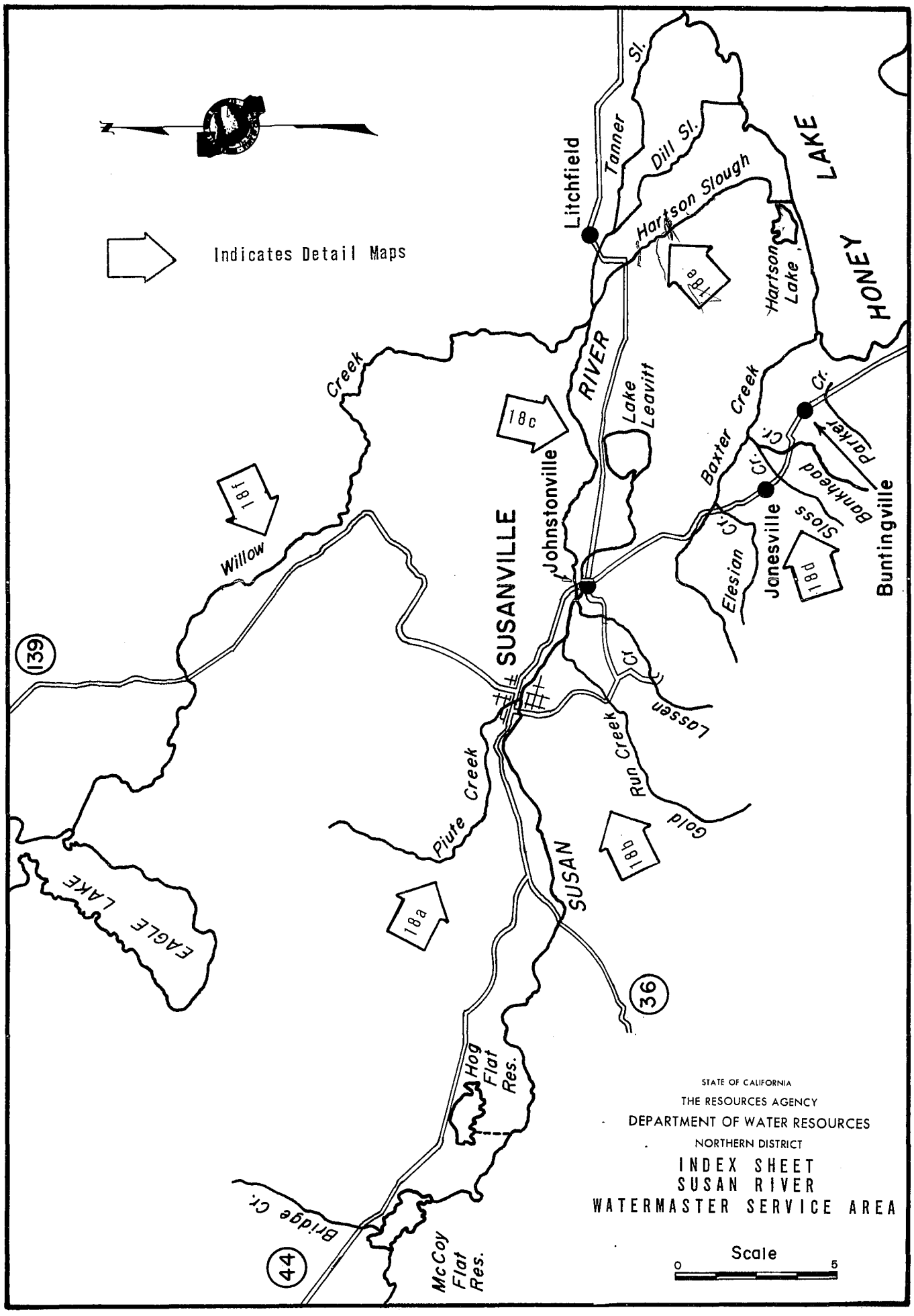
TABLE 59

OPERATION OF McCOY AND HOG FLAT RESERVOIRS

Day	McCoy Flat Res. Inflow from Susan River		McCoy Flat Reservoir Releases to Susan River			Hog Flat Reservoir Releases to Susan River			Transfer of Lassen Irrig. Dist. Water from McCoy Flat and Hog Flat Res. to Lake Leavitt				Day
	June	July	July	August	September	June	July	August	June	July	August	September	
1		10		38	89		63	17		45	39	70	1
2		8.1		49	86		63	14		33	35	70	2
3		7.4		56	85		63	12		34	36	72	3
4		6.3		60	84		63	10		42	41	74	4
5		5.2		62	84		61	8.5		48	46	70	5
6		4.5		62	45 4/		59	6.1		53	47	69	6
7		3.8		65			59	5.3		52	43	57	7
8		3.2		67			59	4.4		57	44	29	8
9		18		67			59	3.6		78	50	24 2/	9
10		39		68			57	2.3		75	49	10 2/	10
11		28		68			61	1.0		70	46		11
12		24		71			57	1.0 5/		60	49		12
13		18		72			57			55	53		13
14		12		74			55			60	53		14
15		8.1		76			53			52	56		15
16	63 1/	5.2	13 3/	75			55			52	55		16
17	59	3.0	24	76			54			52	56		17
18	55	1.6 5/	25	76			52			64	58		18
19	51		28	71		39 3/	50		18 1/	67	58		19
20	48		28	62		67	48		38	64	57		20
21	44		28	55		66	46		41	63	52		21
22	40		32	49		66	44		40	61	49		22
23	37		33	43		65	42		35	58	45		23
24	33		34	36		66	39		43	54	43		24
25	30		34	33		65	37		38	53	42		25
26	26		33	27		63	35		36	51	38		26
27	22		33	20		63	32		37	54	33		27
28	19		35	49		63	29		40	48	32		28
29	15		32	94		65	26		55	48	32		29
30	12		35	91		65	23		53	47	65		30
31			39	90			20			42	70		31
Mean	36.9	11.4	30.4	61.4	78.8	62.8	49.1	7.1	39.4	54.6	47.5	54.5	Mean
Runoff In Acre-Feet	1100	407	964	3770	938	1490	3020	169	940	3360	2920	1080	Runoff In Acre-Feet

1/ Beginning of Record
2/ End of Record
3/ Beginning of Releases
4/ End of Releases
5/ End of Flow

Figure 18


Indicates Detail Maps
Litchfield
Tanner
Dill Sl.
Hartson Slough
LAKE
HONEY
Hartson Lake
18e
RIVER
Lake Leavitt
Creek
18c
Johnstonville
SUSANVILLE
Baxter Creek
Cr.
Cr.
Parkhead
Bankhead
Cr.
Sloss
Jonesville
Elesian
18d
Buntingville
18f
Willow
139
Cr.
Lassen
Run Creek
Gold
Piute Creek
18b
SUSAN
18a
EAGLE LAKE
36
Hog Flat Res.
Bridge Cr.
44
McCoy Flat Res.
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
INDEX SHEET
SUSAN RIVER
WATERMASTER SERVICE AREA
Scale
0
5

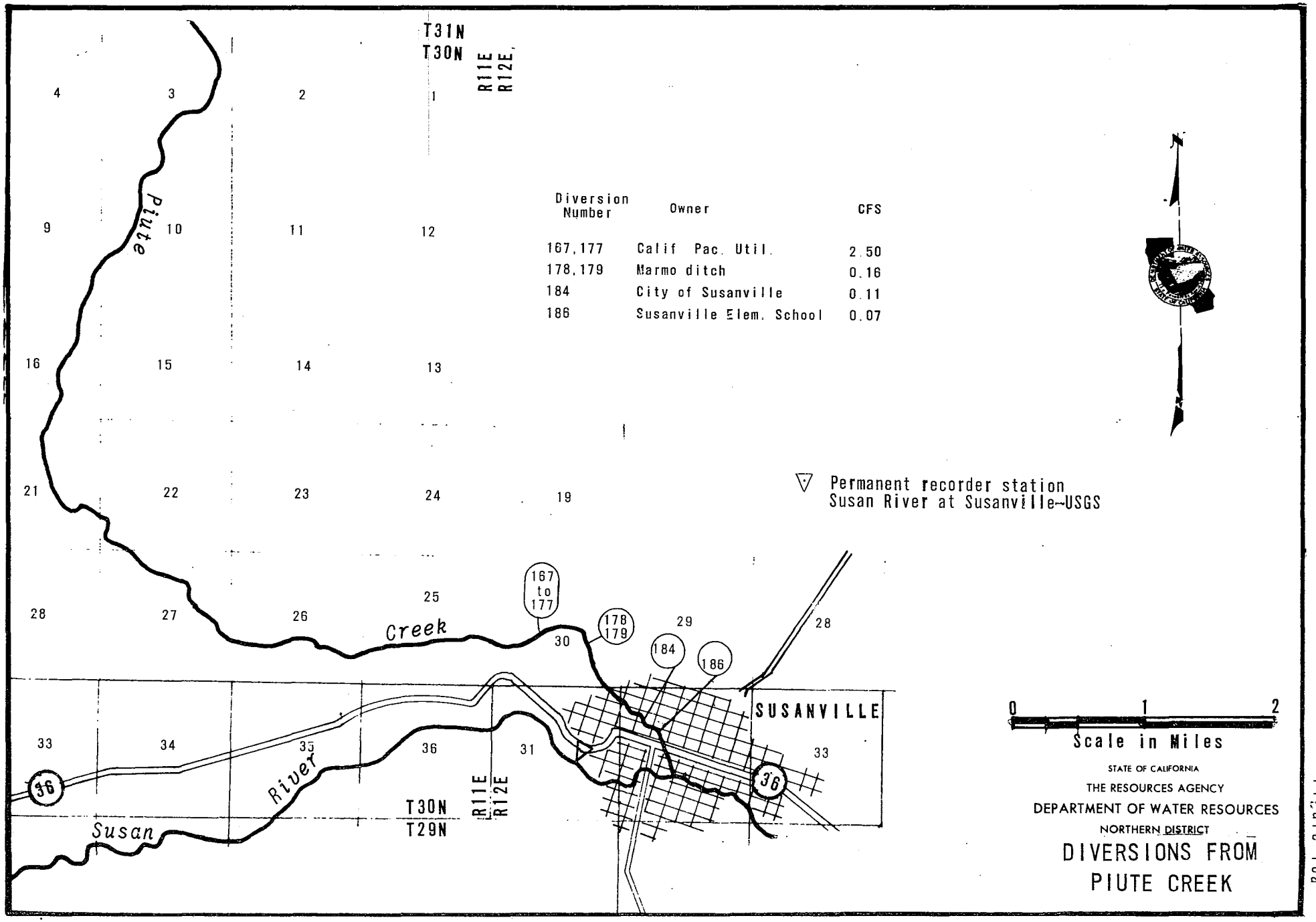
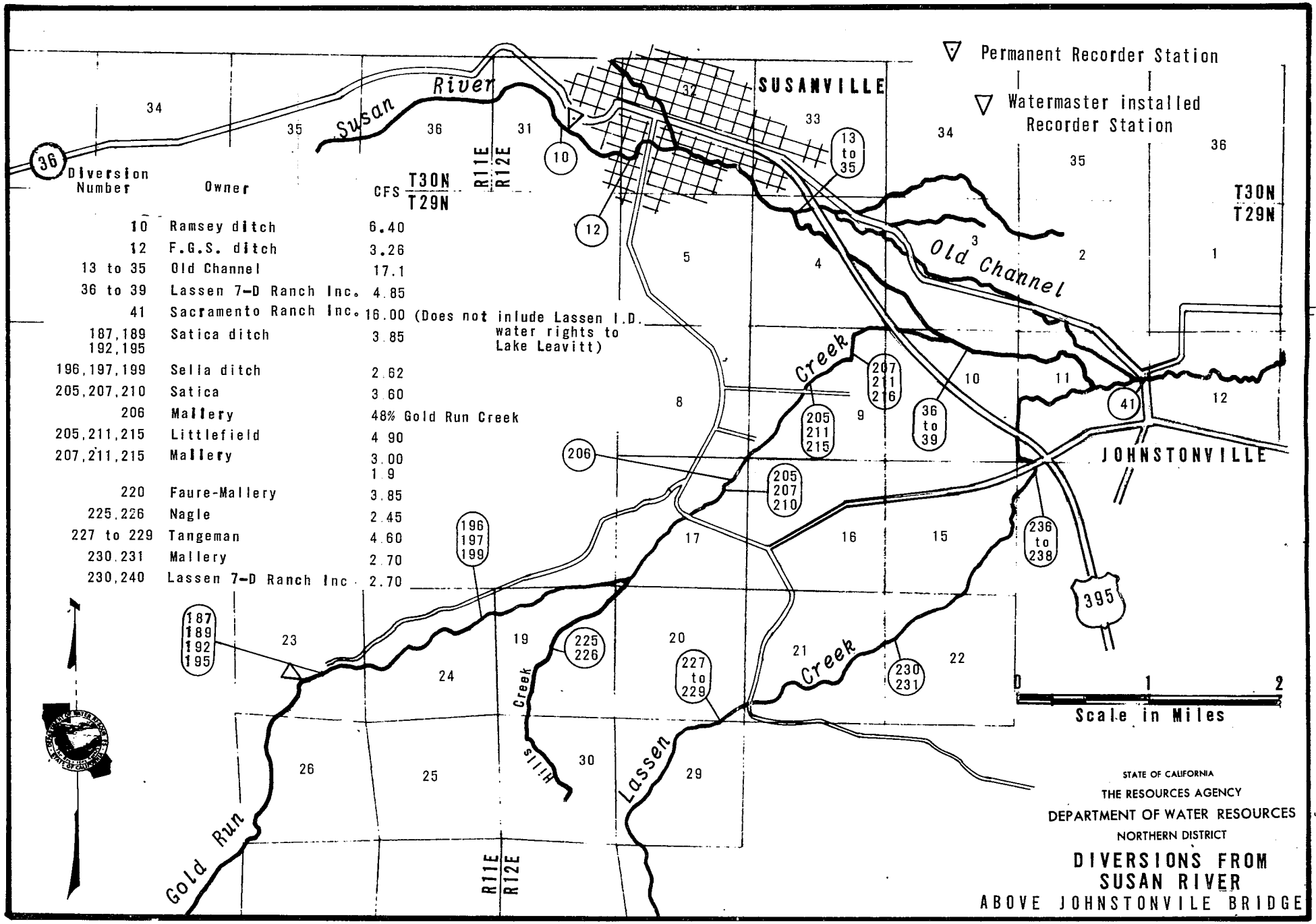

T31N
T30N
R11E
R12E
4
3
2
1
9
10
11
12
16
15
14
13
21
22
23
24
19
28
27
26
25
30
29
28
33
34
35
36
31
33
Piute
Creek
Susan
River
T30N
T29N
R11E
R12E
167 to 177
178 179
184
186
SUSANVILLE
36
36
Diversion Number
Owner
CFS
167,177
Calif Pac. Util.
2.50
178,179
Marmo ditch
0.16
184
City of Susanville
0.11
186
Susanville Elem. School
0.07
Permanent recorder station
Susan River at Susanville-USGS
0
1
2
Scale in Miles
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM
PIUTE CREEK

Figure 18a



Diversion Number	Owner	CFS
10	Ramsey ditch	6.40
12	F.G.S. ditch	3.26
13 to 35	Old Channel	17.1
36 to 39	Lassen 7-D Ranch Inc.	4.85
41	Sacramento Ranch Inc.	16.00 (Does not inlude Lassen I.D. water rights to Lake Leavitt)
187,189 192,195	Satica ditch	3.85
196,197,199	Sella ditch	2.62
205,207,210	Satica	3.60
206	Mallery	48% Gold Run Creek
205,211,215	Littlefield	4 90
207,211,215	Mallery	3.00
		1.9
220	Faure-Mallery	3.85
225,226	Nagle	2.45
227 to 229	Tangeman	4.60
230,231	Mallery	2.70
230,240	Lassen 7-D Ranch Inc	2.70

Figure 18b

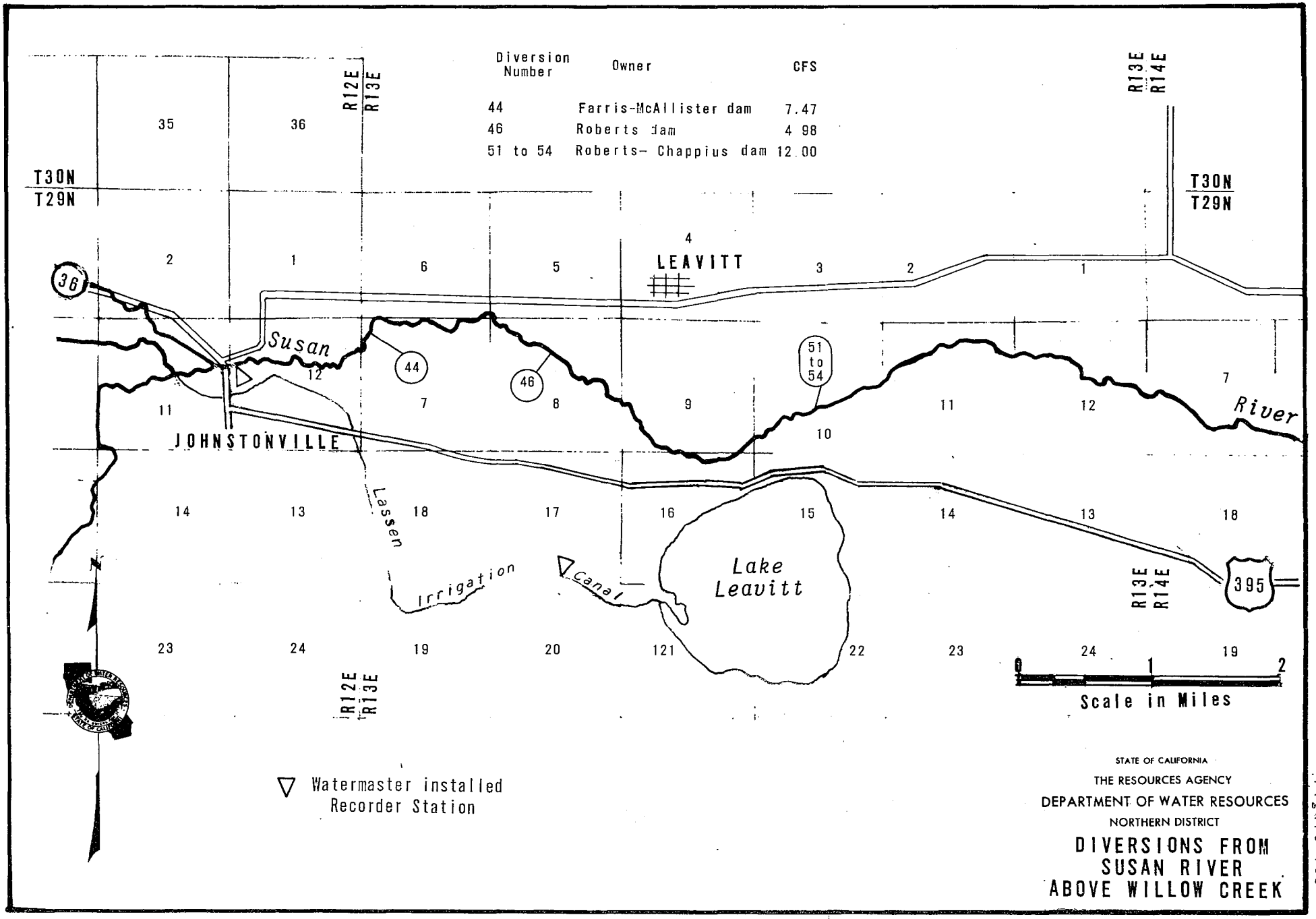
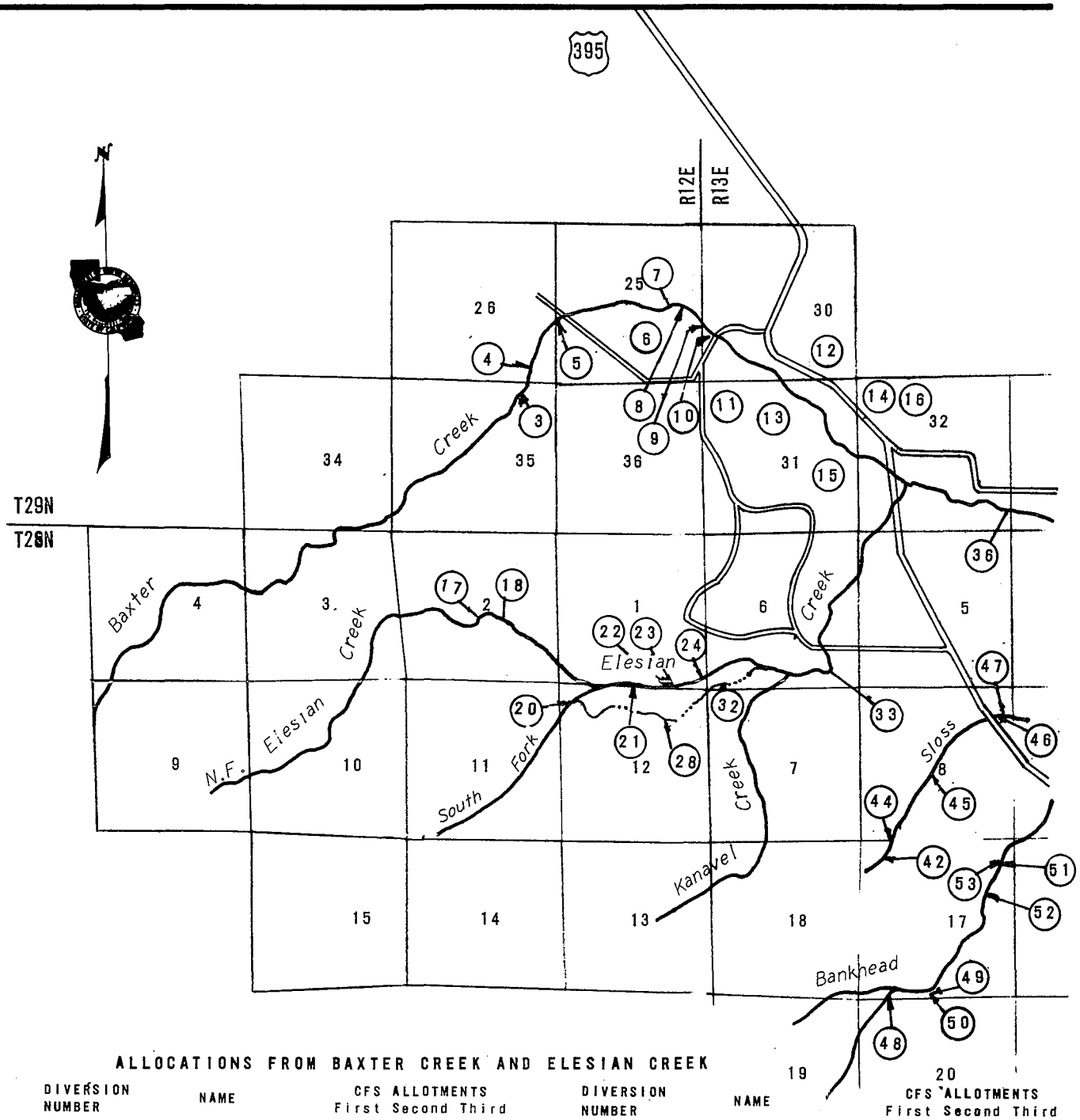

Diversion Number
Owner
CFS
44 Farris-McAllister dam 7.47
46 Roberts dam 4 98
51 to 54 Roberts- Chappius dam 12.00
R12E R13E
R13E R14E
T30N T29N
LEAVITT
JOHNSTONVILLE
Susan River
Lassen Irrigation Canal
Lake Leavitt
395
Scale in Miles
Watermaster installed Recorder Station
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM SUSAN RIVER ABOVE WILLOW CREEK

Figure 18c

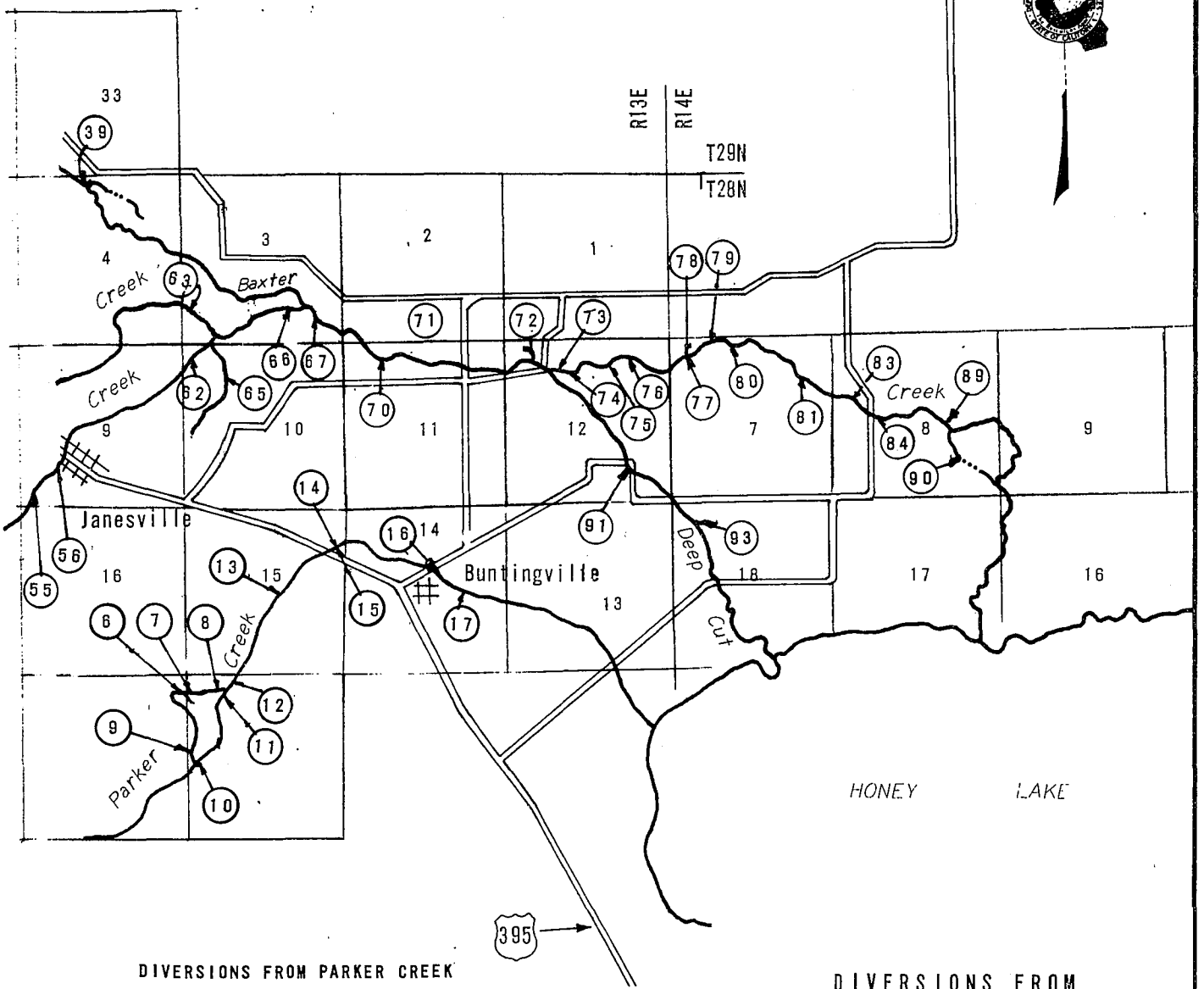


ALLOCATIONS FROM BAXTER CREEK AND ELESIAN CREEK

DIVERSION NUMBER	NAME	CFS ALLOTMENTS First	Second	Third
3,4,5	Dickson	2.50		
6,7,8,10	Gray Eagle Corp	0.68		0.20
11	Burnett, Baker			0.20
8,9,10,12	Mallery	2.80	0.43	
8,12,13,) 14,15,16)	Mallery	2.52	0.97	
16	Gray Eagle Corp	0.10	0.42	
17,18	Bronsom	0.16		
17,21,) 26,27)	Bass	4.10		
17,22,23) 24,28,32) 33)	Bridges	2.82		
17,22,23) 24,28,32) 33)	Kanaval	4.58		
36,39	Peterson			1.42
70	Ahern	0.02		
71,72	A & K Company	0.02		1.69
75,77) 79,80)	Blickenstaff			0.64
78	U.S. Hertz Inc.			1.05
81,83	Blickenstaff			2.88
73,75	Garza		0.89	0.28
74,76	Hemphill	0.98		
		0.98		
75,77	Dieter		1.55	0.40
75,77,80	Dieter			0.30
77,79	Mulroney		0.90	0.90
78	Mulroney			0.67
78	Cummings			0.15
81,83	Blankenship			0.50
84,90	Dow			1.80
85,89	Marsters, Mc Donald			1.60

ALLOCATIONS FROM SLOSS AND BANKHEAD CREEKS

DIVERSIONS NUMBER	NAME	CFS ALLOTMENTS First	Second	Third
42	Mossman	0.02		
44	Doyle	0.002		
45	Snipes			0.08
46	Grover	0.10		1.10
46,47	Peterson	0.10		1.10
48,49,50	Row	0.02		0.13
51	de Rocher	0.08		
52,53,55	White			0.48
56,62	Ashmore	0.04		0.49
63,65	Dow	0.20		2.63
66,67	Myers	0.06		0.20



DIVERSIONS FROM PARKER CREEK

DIVERSION NUMBER	NAME	CFS
6 to 12	Butler	0.89
13 to 15	Hoffman	3.26
15	Flux	1.38
16 & 17	Bailey	2.06

DIVERSIONS FROM BAXTER CREEK AND PARKER CREEK

SUSAN RIVER WATERMASTER SERVICE AREA

Scale 0 1/2 1

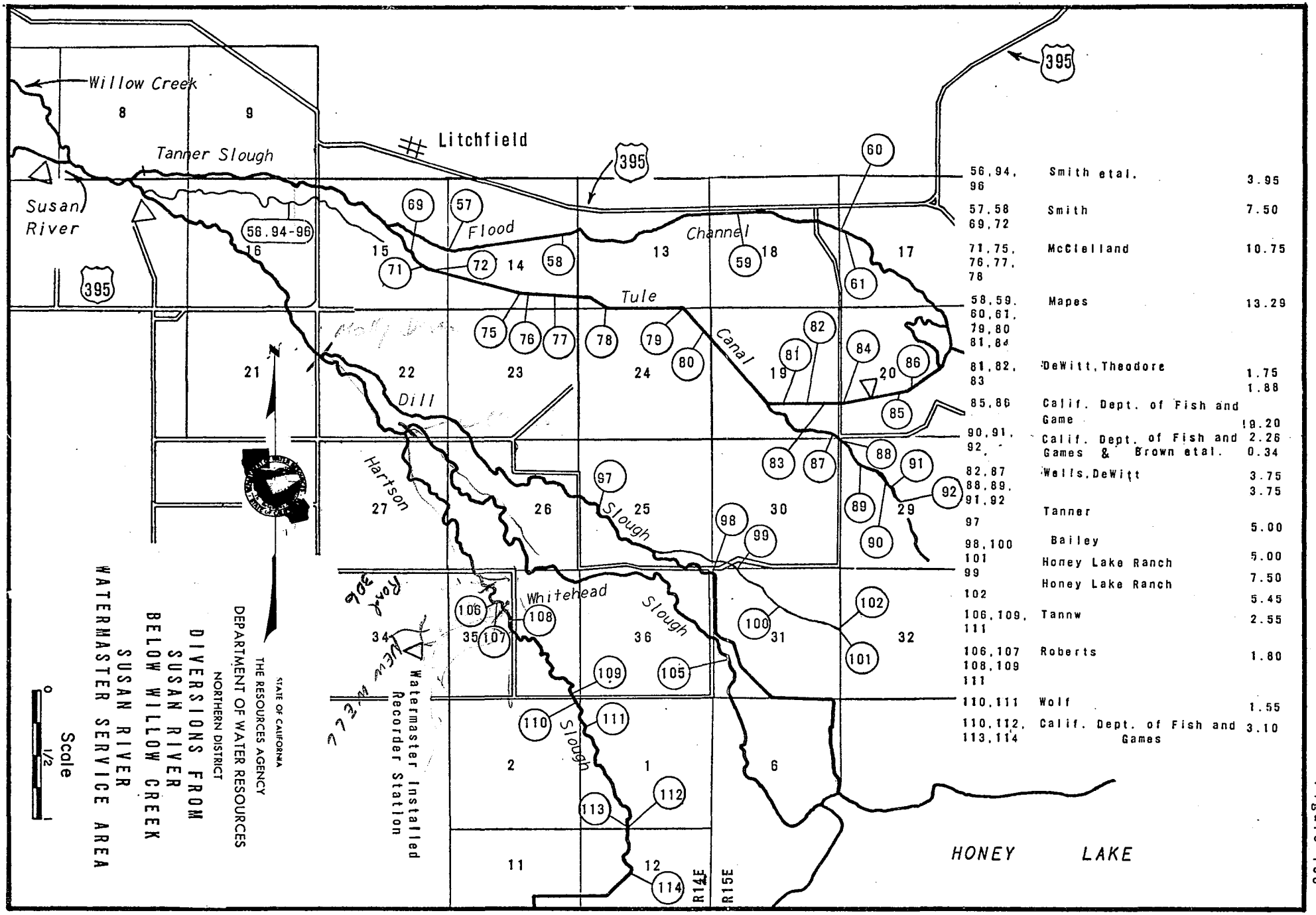
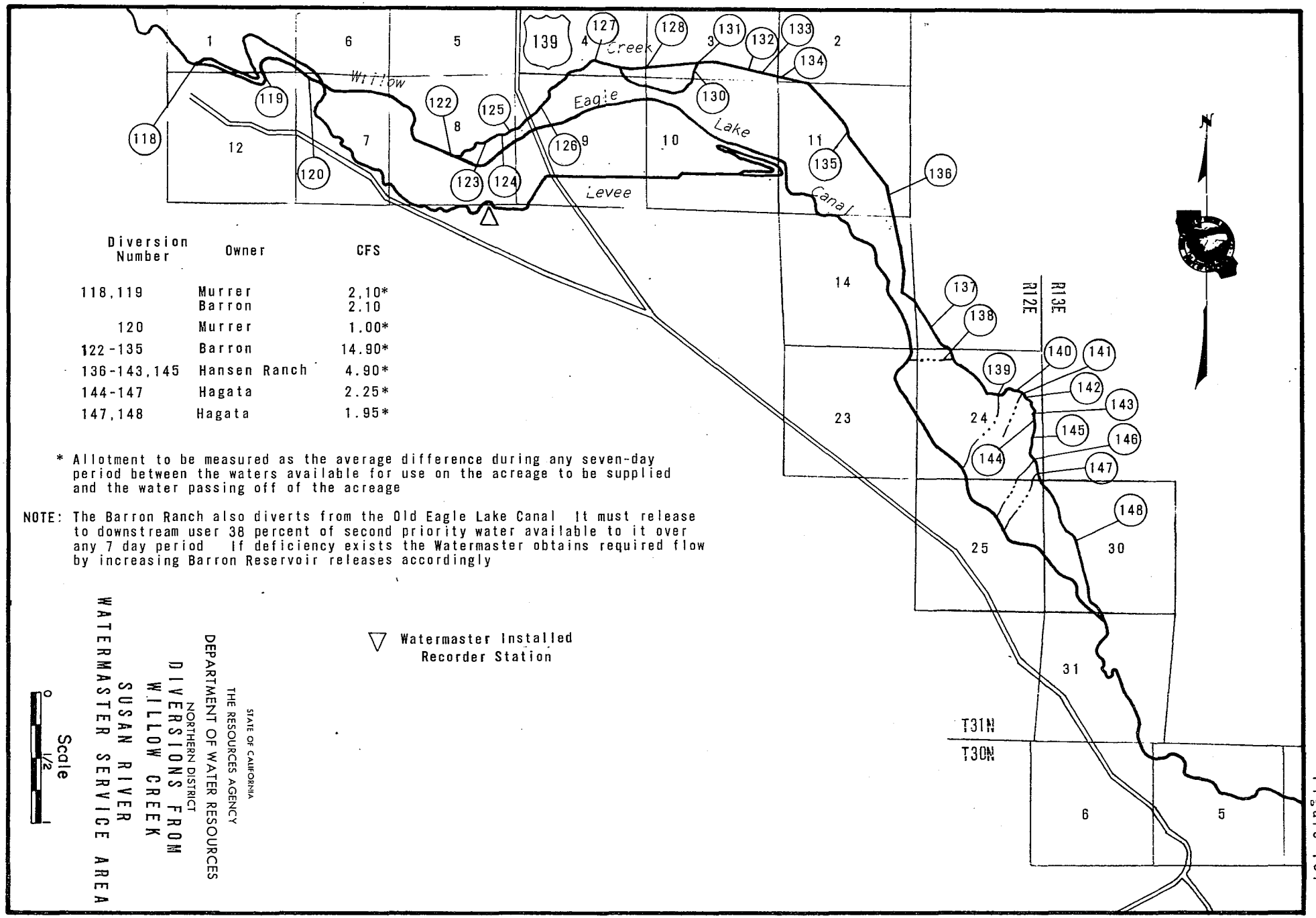

Willow Creek
Tanner Slough
Susan River
Litchfield
395
Flood
Channel
Tule
Canal
Dill
Hartson
Slough
Whitehead
Slough
Slough
Watermaster Installed Recorder Station
HONEY LAKE
R14E
R15E
56.94-96
8
9
16
15
14
13
18
17
21
22
23
24
19
20
27
26
25
30
29
34
35
36
31
32
2
1
6
11
12
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
THE RESOURCES AGENCY
STATE OF CALIFORNIA
DIVERSIONS FROM
SUSAN RIVER
BELOW WILLOW CREEK
SUSAN RIVER
WATERMASTER SERVICE AREA
Scale
0
1/2
1
56,94, 96 Smith etal. 3.95
57,58 69,72 Smith 7.50
71,75, 76,77, 78 McClelland 10.75
58,59, 60,61, 79,80 81,84 Mapes 13.29
81,82, 83 DeWitt,Theodore 1.75 1.88
85,86 Calif. Dept. of Fish and Game 19.20
90,91, 92, Calif. Dept. of Fish and Games & Brown etal. 2.26 0.34
82,87 88,89, 91,92 Wells,DeWitt 3.75 3.75
97 Tanner 5.00
98,100 Bailey 5.00
101 Honey Lake Ranch 7.50
99 Honey Lake Ranch 5.45
102 Tannw 2.55
106,109, 111 Roberts 1.80
106,107 108,109 111 Wolf 1.55
110,111 Calif. Dept. of Fish and Games 3.10
110,112, 113,114

Figure 18e



Diversion Number	Owner	CFS
118,119	Murrer	2.10*
	Barron	2.10
120	Murrer	1.00*
122-135	Barron	14.90*
136-143,145	Hansen Ranch	4.90*
144-147	Hagata	2.25*
147,148	Hagata	1.95*

* Allotment to be measured as the average difference during any seven-day period between the waters available for use on the acreage to be supplied and the water passing off of the acreage

NOTE: The Barron Ranch also diverts from the Old Eagle Lake Canal It must release to downstream user 38 percent of second priority water available to it over any 7 day period If deficiency exists the Watermaster obtains required flow by increasing Barron Reservoir releases accordingly

▽ Watermaster Installed Recorder Station

Scale 0 1/2 1

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT

DIVERSIONS FROM WILLOW CREEK

SUSAN RIVER WATERMASTER SERVICE AREA

Figure 18f

Willow Creek Watermaster Service Area

The Willow Creek service area is situated in Siskiyou County, about 10 miles northeast of Montague. A map showing the Willow Creek stream system, the diversions, and the principal roads in the area is presented in Figure 19, page 171. Willow Creek is the major source of water supply and rises on the west slope of 7,800-foot Willow Creek Mountain east of the service area. It then flows in a northwesterly direction through about 11 miles of rolling hills to its confluence with the Klamath River. The service area is about 8 miles long by 1 mile wide and varies in elevation between about 2,600 and 4,000 feet.

Basis of Service

Willow Creek has had a long history of litigation. However, the present basis of service might be said to have been initiated in 1949 when a civil suit was referred to the Department of Public Works, Division of Water Resources, to act as referee. The matter was never finalized by a decree. The issues involved were reopened in 1971, and by Decree No. 24482, dated April 28, 1972, the Siskiyou County Superior Court appointed the Department of Water Resources to supervise distribution of water in accordance with an earlier agreement between the users defining their respective rights. Accordingly, the Willow Creek watermaster service area was created on June 22, 1972, and service began on July 1, 1972.

There are three water users in the service area. Distribution is on a fractional basis until the flow drops to a specified amount below the upper two users. At that time, the total flow is rotated between the upper two users.

Water Supply

The main source of water supply of the Willow Creek stream system is from the melting of snow which accumulates at high elevations on the drainage area during the winter months. The spring flow from the melting snow begins late in March or early April and is almost entirely gone prior to June 1. Thereafter the flow decreases rapidly until about July 1. From that date up to the time fall rains begin, the flow remains at a more or less sustained low-flow stage sufficient for domestic and stockwatering purposes on the two upper ranches only.

Method of Distribution

Both sprinkler and flood irrigation are used in the Willow Creek service area. The upper water user has the option of using gravity diversions for either flood or sprinkler irrigation. The middle user relies entirely on flood irrigation by both of these users. Diversion is accomplished by diverting water into the ditches by temporary rock or gravel dams. The lower user in the area utlizes both flood and sprinkler irrigation during the early season when the supply is abundant. As the supply dwindles, the remaining water is pumped from a sump to the sprinkler system.

1974 Distribution

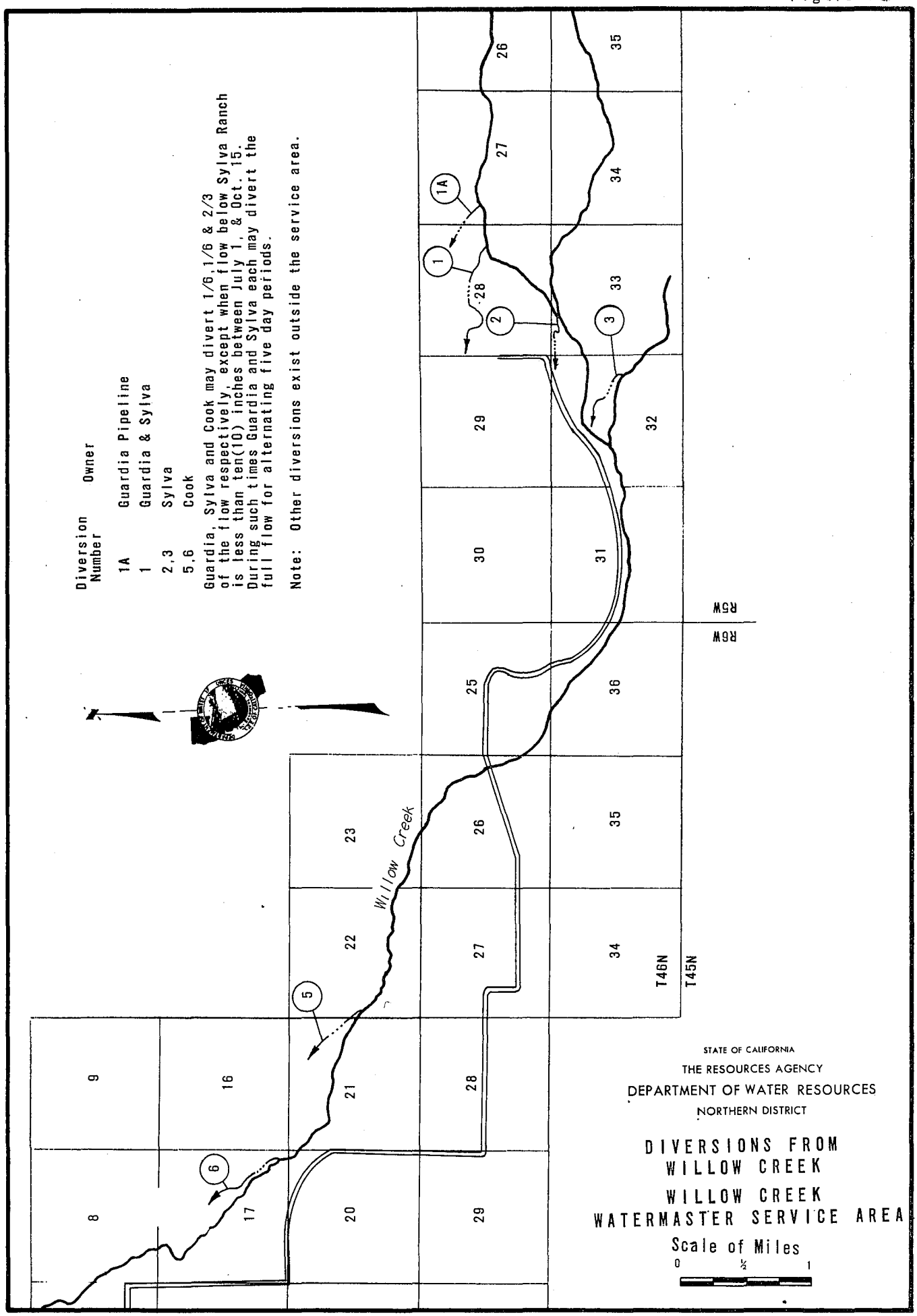
Watermaster service in the Willow Creek service area began on July 1 and continued until September 30. John A. Nolan, Water Resources Technician II, was watermaster during this period.

Since watermaster service began in 1972 on this creek, there are no records for a basis of comparison of this year's water supply with an average. However, the water users indicated that the supply was far above average.

On July 1 there was still sufficient water to distribute to all three users according to their fractional allotments. On July 20 distribution was started on a

5-day rotation between the two upper users since the lower user's allotment was no longer reaching its place of use. This rotation was continued for the remainder of the season.

Figure 19


Diversion Number
Owner
1A Guardia Pipeline
1 Guardia & Sylva
2,3 Sylva
5,6 Cook
Guardia, Sylva and Cook may divert 1/6,1/6 & 2/3 of the flow respectively, except when flow below Sylva Ranch is less than ten(10) inches between July 1, & Oct. 15. During such times Guardia and Sylva each may divert the full flow for alternating five day periods.
Note: Other diversions exist outside the service area.
Willow Creek
R5W
R6W
T46N
T45N
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
NORTHERN DISTRICT
DIVERSIONS FROM WILLOW CREEK
WILLOW CREEK WATERMASTER SERVICE AREA
Scale of Miles
0 ½ 1